1909

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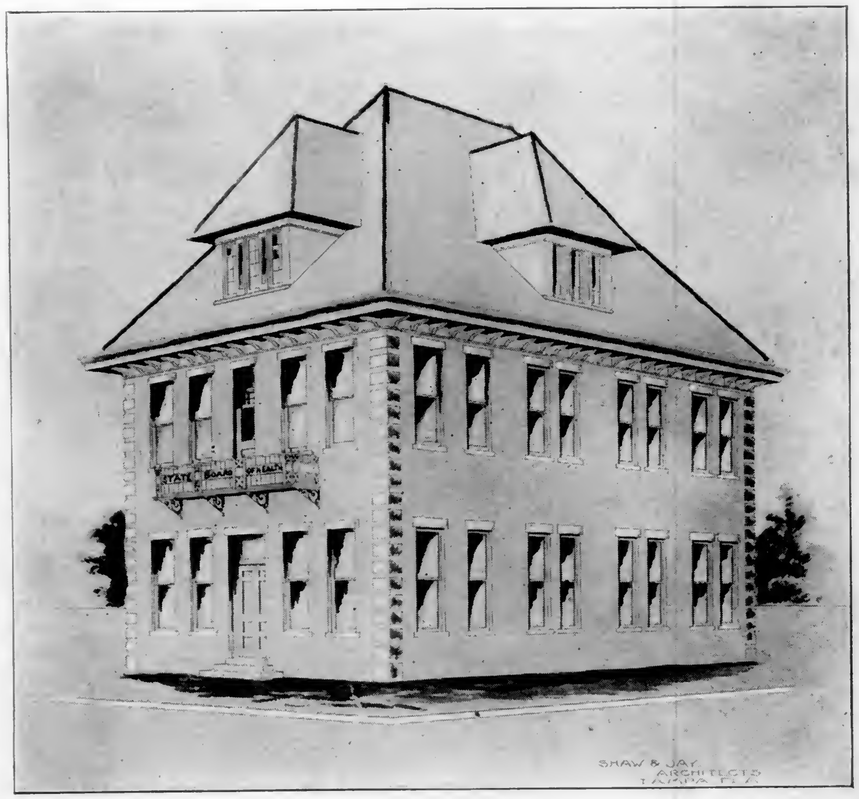
State Board *of* Health

FLORIDA

1909

VOLUME IV FLORIDA HEALTH NOTES

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TWENTY-FIRST

ANNUAL REPORT

of the

STATE BOARD *of* HEALTH

of FLORIDA

1909

APPROVED BY THE BOARD IN ANNUAL SESSION
FEBRUARY 8, 1910, JACKSONVILLE, FLA.

WITH VOLUME IV (1909) FLORIDA HEALTH NOTES

STATE BOARD *of* HEALTH *of* FLORIDA

MEMBERS.

E. M. HENDRY, *President*.....Tampa
H. L. SIMPSON, M. D.....Pensacola
JOHN G. CHRISTOPHER.....Jacksonville

SECRETARY.

JOSEPH Y. PORTER, *State Health Officer,*
Jacksonville and Key West.

The Offices of the Board are in the Dyal-Upchurch Building,
Jacksonville, Fla.

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TWENTY-FIRST ANNUAL REPORT OF THE STATE BOARD *of* HEALTH *of* THE STATE *of* FLORIDA

LETTER OF TRANSMITTAL

Tampa, Fla., February 8, 1910.

His Excellency, Albert W. Gilchrist, Governor of Florida,
Tallahassee, Fla.

Sir: With each recurring year comes the duty, but none the less a pleasant one, of communicating to the Chief Executive of the State an account of the transactions of the Health Department of Florida for the previous twelve months; an obligation imposed by the statutes, and a gratification begotten of a keen interest shown by the people of Florida in all things pertaining to their physical welfare. Accordingly, the Report of the Executive Officer of the State Board of Health—the State Health Officer—is herewith inclosed, which concisely sets forth conditions affecting the health which have occurred in the State during 1909.

It is not my purpose to more than direct your attention to certain features of this report which to me are particularly interesting from a business man's point of view and which seem to bear especially upon the State-wide influence which the Board has induced during the past twenty years and from which great good has resulted to the people both educationally and practically.

It is a well known fact that prior to the great epidemic of yellow fever in 1888 the increase in the State's population from immigration was almost inappreciable compared with the gain since the period mentioned. It is within the memory of even our younger people that as each summer came there was talk of yellow fever, its probability of occurrence and the point where it would first make its appearance. This periodic agitation of a subject which vitally interested not only the physical life of the citizen, but his business existence as well, brought about conditions which yearly disturbed home comfort and retarded the coming of people into the State, besides restricting investment of capital, so necessary to develop many important industries and avenues of commerce which held out flattering returns. People were scary, and naturally so in placing their money where health conditions were so uncertain and where an epidemic of yellow fever

depressed values to a degree that it would take years of exemption to recover from. Then again, the diversity of opinion as to management when disasters of this character did occur and the inconvenience and annoyance to travel and commerce which arose on each county line, demoralized both the citizen and business, so that at almost every path and by-road in the State, the traveller, whether from an infected portion of the State or not, was harassed by guards, who in the majority of instances were ignorant of the essential requirements of their positions, and who rendered really no practical service in restricting the spread of a contagion, but did inflict, by their orders and insistence of them, many indignities on women and children, and in several instances serious impairment to health.

Compare the condition existing in the State in 1888 with an epidemic of yellow fever in Jacksonville, and the conditions which prevailed in 1905 with an epidemic of the same disease in Pensacola, Fla. In the former instance panic prevailed; every man's hand was raised against his neighbor of adjoining counties, under a false supposition of protection against an unseen enemy; commerce was strangled and stagnation of business consequently followed. In 1905—in the latter instance—without a ten-mile area around Pensacola, travel within the State was undisturbed. Business followed its usual methods and there was no panic, no excitement, no hysteria of even those most sceptical of the ability of the State Board of Health to cope with the situation and confine the disease to one point in the State, where it had unfortunately gained entrance, which occurred, however, through no lack of careful supervision or attention. Even when a case of yellow fever occurred in Tampa by direct importation from New Orleans, at a period in the history of that epidemic when the disease was not known to exist in New Orleans, there was no uneasiness felt at Tampa, and there was not for one minute a suspension of travel or commercial relations with the other portions of the State.

These facts are mentioned to you, not in a boastful way, but to emphasize the growth of confidence on the part of the people in an institution which the people themselves in their wisdom had provided for in the Constitutional Convention of 1885, but which, although delayed in operation until 1888, was called into actual existence by the result of the disturbing factors of the epidemic of that year.

Is it unreasonable, therefore, to argue or to maintain that the part played in the wonderful development of Florida since 1888 has not been due very largely to a confidence in the safety of living in the State, which confidence has been inspired by the work which the State

Board of Health has done along health lines and which it is still earnestly engaged in? Would people come to the State from the West, Northwest, Northeast, and middle West, buy property, institute new industries, and settle permanently among us, if they did not feel that their lives were being guarded against disease, and their accumulations of property interests were being protected against needless fright and senseless panic? I do not say nor pretend to assert that the State Board of Health has been the only factor in the strides which Florida has made towards financial development in the past twenty years, but I do maintain without fear of successful contradiction, that the Board has contributed a large share to the success which the State now enjoys, and it will be recognized in the future, if not already so considered, as an investment on the part of the people which should be allowed the greatest latitude of administration.

The State Health Officer remarks upon the exceptionally good health which has prevailed in the State during the past year, a circumstance not only pleasing to the Board to hear, but which must be equally satisfactory to you to learn.

While there has been no extended prevalence of contagious diseases in the State during 1909, and the Board has not been called upon to exercise special authority to control any wide-spread diffusion of contagious disorders, yet the Executive Officer and his assistants have found ample work to engage every day and hour of their time.

Glanders in horses and mules has existed in epidemic form, both in Jacksonville and Ocala, and at one time threatened serious consequences through a spread of the infection to other stock in the counties of Duval and Marion, but by prompt measures and assiduous care the disease was eradicated although not without financial loss to the several owners of animals dying from the disease, as well as to a needful destruction of those infected; the latter being the only authoritatively recognized method of control.

In this connection, it is well to remind you that the Legislature of 1909 passed a very exhaustive and comprehensive Statute on the control of contagious and infectious diseases when occurring in the live stock of the State, providing that the State Board of Health should supervise and manage such, and likewise providing for reimbursement for animals which may be condemned and destroyed to prevent the spread of an infection. This subject is dwelt with in detail in the report of the State Health Officer, and is merely referred to here to indicate a part of the work in which the Board has been engaged during the past year.

Quite recently the Chamber of Commerce of Atlanta in conjunction with the State Board of Health of Georgia called together by invitation the State health officials of the Southern States and many others who might be interested in a specific work connected with a feature of health protection. The call stated the subject of the Hookworm Disease in the South would be considered in its different phases of possible eradication, amelioration and cure. The State Health Officer and the Assistant State Health Officer were directed to represent the State Board of Health at this meeting, and they have submitted a highly interesting account of the proceedings of this convention; a copy of which is embodied in the transmitted transactions of the Executive Office for the year. It is extremely gratifying to me to note that Florida seems to have been the only State represented at that convention which prior to the coming together had any fixed plan or idea of the character and direction of the work that should be followed in ameliorating the hookworm trouble. The combined report of Doctors Porter and Byrd clearly indicates that but little if any work had been done by the other Southern States in this disease, and that that little has been of a desultory character with no clearly defined conduction or management. I am certainly of the opinion that it is within the province of the Board's duty and certainly demanded by every consideration of humanity for the Board to pursue an aggressive campaign against this disorder. It is apparent to anyone who travels frequently through the State, even from casual observation along railroads as the trains pass stations in certain sections of the State, that the infection from hookworm disease is extensively prevalent and that the poverty of particular sections is due not so much to the ignorance of the population as it is to the baneful influence which an infection of hookworms produces upon the mental condition of the people who are affected. The Board does not expect to eradicate the "worm" from Florida, certainly not in this generation, nor does it hope for such success in the next fifty years, but it can and will, if permitted to do so, try to lessen by at least fifty per cent the evils which result from hookworm contamination. This is what the State Health Officer tells me, and I think the resulting good which will accrue to the people of Florida by an active work directed persistently by educational and personal contact methods, in a thorough and systematic way, as planned by the State Health Officer, is a legitimate expenditure of State funds and the Board's energy, and has my thorough approval, as I hope it meets your unqualified commendation. To rescue even as small a number as fifty per cent of the infected cases

will be doing something towards ameliorating condition which, undisturbed or indifferent to, will result in a living death to the unfortunates who thus drag out a miserable existence of physical and mental wretchedness.

The demands of the Laboratory Division of the Board have increased so that the Board in annual session last year favorably considered requests from the southern section of the State for a branch laboratory at Tampa. The city of Tampa generously donated a site which is admirably located for accessibility and desirable convenience, and after consultation with the Comptroller, and with the other members of the Board as to requisite funds for the purpose, I had plans drawn for a suitable building to be erected at the corner of Florida avenue and Constant street. Contract has been let for this construction and the building is to be finished about May of this year.

It is a pleasure to state to you that the funds of the Board are in a fairly satisfactory condition. It is thought that sufficient money is in the hands of the State Treasurer, belonging to the State Board of Health fund, to meet the current demands of the coming year. By strict economy, which, however, has not by any means stood in the way of an efficient management, the Board up to the session of the last Legislature had accumulated quite a respectable reserve fund in its treasury. The State Health Officer has been insistent in almost every report to the Board, that there should be at all times to the credit of the Board a reserve fund of not less than one hundred thousand dollars to meet possible emergencies and exigencies which cannot be foreseen, and which sum should be over and above the amount required to meet ordinary and current expenses. The wish of the State Health Officer had finally met with fulfillment, but this status was not allowed to remain, for the Legislature of 1909 diverted sixty thousand dollars of this fund to relieve a financial stringency in another department of the State government, notwithstanding the fact that this money had been collected from the people for the specific purpose of health management and for operating measures designed altogether for health projects. On account of this depletion of the Health Fund of the Board a long anticipated plan of the Board to establish a sanitarium for the indigent tuberculous citizens of Florida has had to be deferred. This is a disappointment not only to the Board itself, but to many citizens who were anxiously expecting relief to a situation which each year is causing more and more concern to those who are interested in the welfare and amelioration of this class of unfortunate people.

The Legislature very generously acceded to the Board many of the requests which were contained in the form of recommendations in the last annual report, but, while adding to the liabilities of the Board and increasing the Board's responsibilities to the people, the Legislature nevertheless decreased the assets of the Board and deprived it of the financial means to perform that which the Statutes require. Business men know that great enterprises require capital to develop them and bring them up to a successful paying investment. If health is the greatest asset which a commonwealth can acquire, then there is no amount of money too large when judiciously expended for the good and benefit of the people in this direction. In speaking of this lessening of the Board's financial assets by the last Legislature, I would not be thought to be criticizing the acts of that body. The responsibility of the State management is theirs, but it will not, I hope, be taken amiss to indicate where and how the efforts of the Board—which, after all is said, is a creature of the people—may be crippled if a precedent is established of taking from the Board's fund to help out another department of the State government when in a monetary stress.

The Executive Office of the Board does a great work in an educational way through its monthly publication, the FLORIDA HEALTH NOTES. From sixteen to twenty thousand copies are monthly distributed gratuitously to the citizens of Florida, the number depending mainly upon the importance of subjects which the Executive Office desires to especially bring to the attention of the citizens of the State in that month. That it is appreciated and extensively read is shown by the frequent allusions to matters which it contains and the inquiries brought forth in a greatly added correspondence with the office of the Board.

I might continue to remark upon the work of the Board during this and other past years, for what it is doing can hardly be adequately related in a letter of transmittal of this kind. I trust, however, that I have sufficiently interested you in the subject as to induce you to read the Report in its entirety, as well as to look through the twelve months' issue of the NOTES, which is this year made a feature, and an important one, of the year's work.

Respectfully,

E. M. HENDRY,
President State Board of Health.

REPORT OF THE STATE HEALTH OFFICER

To the President and Members of the State Board of Health of Florida:

The following statement of the transactions of the executive office of the State Board of Health, which embodies not only a financial account of receipts and expenditures, but also various incidents connected with the management of the Health Department of the State, is respectfully submitted for your consideration, with the hope that that which has been done may meet with the approval of the Board and that a kindly indulgence may be shown for any apparent failure to accomplish more.

GENERAL HEALTH CONDITIONS.

Mortality:

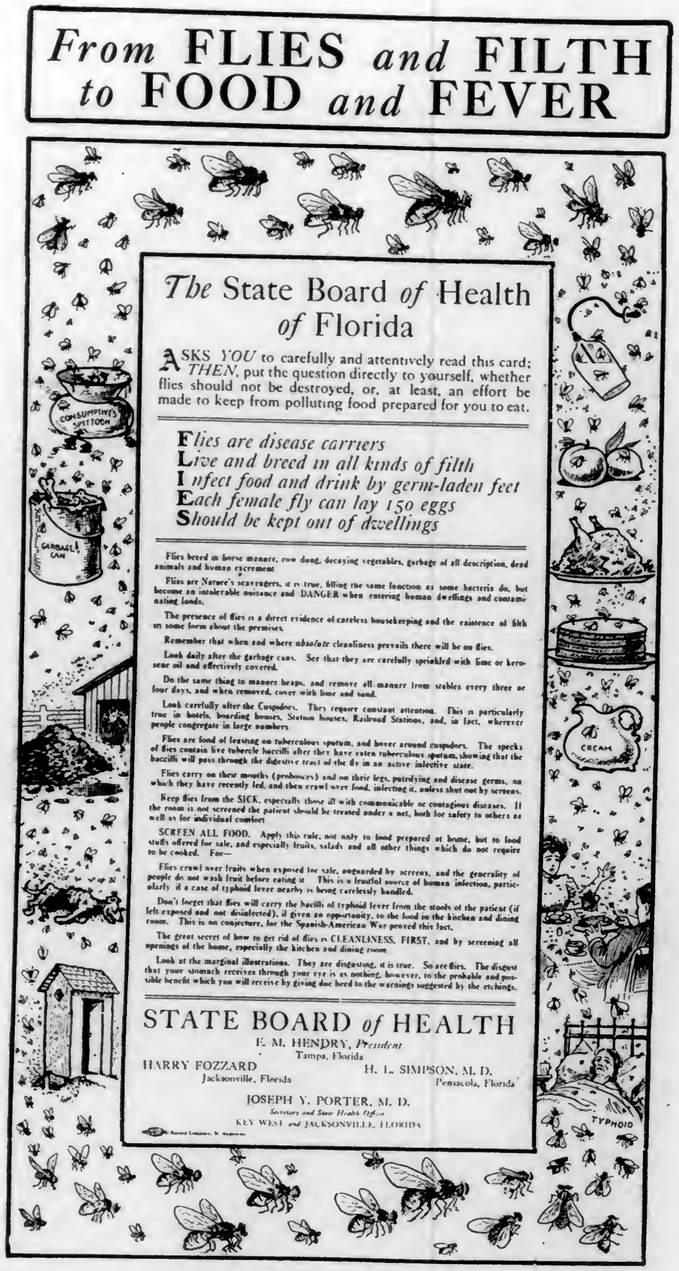
The health of the State has been remarkably good during the year 1909. It is appreciated that a bold statement of this kind carries but little weight without statistical figures to prove an assertion that the mortality of the State has been less than during previous years or that the morbidity of the State has decreased over that of past seasons. These figures cannot be had. But taking into account the mortality of the cities of the State having organized health governments, which have reported to this office, it will be seen that in four cities in Florida, having an estimated population (total) of 169,500 the number of deaths occurring collectively were 2,488; and making this a basis of computation for the balance of the State, having an estimated population of 750,000 it will be seen that the death rate of the State probably does not exceed 14.67 per thousand of population.

This can be considered, too, a conservative estimate, from the fact that in the rural districts a mortality from natural causes, and in fact from all causes, is generally less than in the more congested centers of population.

COMMUNICABLE DISEASES.

Smallpox:

It is gratifying also to note that there have been no epidemics of dangerously communicable diseases—except of measles in Tampa—during the past year, nor has there been more than a sprinkling of other contagious disorders. For instance, cases of smallpox have not exceeded twenty-four, which number when compared with the experience of the Board ten or fifteen years ago, is exceedingly low, and



FLY POSTER

22x11½ inches. Designed and issued by the State Board of Health of Florida, August, 1908. Printed in colors, and in English and Spanish, on cloth and on cardboard. Largely distributed over Florida. Reproduced entirely or in part by newspapers, public health associations and journals, State and City Boards of Health throughout the United States, and recently reproduced in England.

scarcely worth mentioning in connection with a loathsome and scar-producing disease which formerly entailed a large expenditure of money as well as a burdensome administrative care. It is not amiss, however, to call attention to the fact that smallpox will quite likely again be an important and annoying feature in health management during the next year or two, for it has been noticed that the disease becomes active as the population increases and the people are indifferent to vaccination—a sure preventive of the disease when accepted and successfully adopted; and this recrudescence usually happens within a decade of the last general prevalence. The people, however, have the remedy and prevention in their own hands for the mere asking and are alone to blame for consequences when refusing the advice of the Board and the generosity of the State in this respect.

Scarlet Fever:

A mild, and in some instances an almost inappreciable, prevalence of scarlet fever occurred quite extensively over the State during the autumn months, but occasioned no fatalities so far as the office has learned, and but little anxiety to the people.

Measles:

An epidemic of measles has prevailed in Tampa since the early part of October when it is supposed the disease was introduced from Havana, Cuba. Dr. C. W. Bartlett, the agent of the State Board of Health for Hillsboro County, whose special report is elsewhere in this document, very interestingly gives an account of this prevalence and intelligently discusses some of the difficulties attending its control.

On the whole, therefore, it may be very safely stated that the general health conditions of the State for 1909 have been entirely satisfactory.

Malarial and Typhoid Fevers:

Malarial and typhoid fevers are preventable diseases: this now is accepted as an indisputable fact, and being so admitted they should be crossed off the list of communicable diseases which cause sickness, create monetary loss and destroy life. They can be controlled by paying due regard to conditions which produce them and an application of methods which sanitary science teaches will assuredly prevent when put into active operation.

Without the infected malarial mosquito—the *Anopheles*—there can be no malarial manifestations. Without stagnant pools, marshy land and defective drainage there will be no breeding places in which this

species of mosquito will propagate and thrive and, when infected, become the carrying host to the human of the malarial parasite.

Again, if people are not bitten by the infected malarial mosquito they will not sicken with chills and fever and other forms of intense infection which the different varieties of the parasite give rise to. Therefore, the overthrow of malaria lies with the people themselves, who, notwithstanding they have been advised and pleaded with, still permit a state of affairs to continue which will be lasting until indifference gives way to an enlightened and progressive determination to improve the public health and reduce an unnecessary monetary waste. When ideal conditions shall have been attained in insect eradication or the elimination of parasites which prey upon and cause disease in the human family, then will the millennium have arrived. Sanitists do not expect this or look for such a delightful state of bliss on this mundane sphere, but people can, by paying attention to practical measures and easily obtained means of prevention, advance far in reaching an exemption from malarial troubles and typhoid agonies and griefs.

However malarial the section of the country may be, yet living therein can be reasonably safe and free from sickness of that nature if houses are thoroughly and properly screened and the family sleeps under mosquito nets. The latter precaution against the bites of possibly infected mosquitoes is more important than simply to screen the openings of houses, for it matters not how careful the occupants may be, some mosquitoes will always find entrance through doors when opened in coming in or going out of a room or the house, so that perfect protection against mosquito biting can only be secured by sleeping under a net, which in turn has been examined before and after retiring. Abundant information has been furnished as to the practicability of this plan to escape attacks of malarial fevers—which were tried with much scepticism at first, but which have proved successful. It is not always possible to undertake drainage of low lands or to recover marsh stretches on account of the great cost to single individuals, yet those same people have by force of circumstances, perhaps, to live in the flat woods section of the State where, during certain seasons, *Anopheles* mosquitoes are very abundant and breed rapidly. By attending to simple precautions against the bites of these insects their health need not be impaired by malarial infection nor their expenses increased by drug bills. The HEALTH NOTES has preached this doctrine for years and the executive office has gone a step further and distributed leaflets on the prevention of malaria with the hope that a few seeds of advice in this direction might fall on listening ground, take root and grow to beneficial application.

Typhoid fever is also preventable by the careful handling of the patient to hinder infection by contact; the disinfection of all dejecta; disinfection of every article used in and about the sick room, and lastly but by far the most important of all measures, destruction of flies in the immediate neighborhood of a typhoid case. Flies can at least be kept from feeding upon typhoid excreta and afterwards crawling upon food in kitchen, dining-room, meat stalls or fruit stands. It is rare that the typhoid bacillus nowadays is transmitted through water used for drinking purposes; milk sometimes, and then the pump, has a good deal to do with the infection; but the large number of outbreaks of typhoid fever of late years have been due to infection conveyed by flies and by carrier cases. Get rid of flies; screen against them not only in homes but in markets and see to it that the ordinance is rigidly enforced. Not simply by laying mosquito netting over meat, vegetables and fruit for the flies to crawl over and not improbably contaminate the articles of food between the meshes as it loosely lies over the commodities, but to screen closely all openings of rooms used for the sale of food-stuffs and, where exposed to inspection, to be contained in flyproof cages. A spasmodic effort of a City Council by an ordinance will accomplish nothing but a farce of the whole attempt unless guarding against infection of food by flies is not intelligently and systematically carried out.

Malaria and typhoid are preventable diseases and can be obliterated as a cause of much human misery, suffering and civic loss.

VETERINARY DIVISION.

While as has been stated there have been no extended or generally widespread epidemics of dangerously communicable diseases among the people, yet the services of the Board have been extensively engaged during the year in caring for sickness amongst domestic animals and in the prevention of disastrous effects therefrom. Particularly has this been the case in regard to the detection of glanders and tuberculosis.

Glanders:

Two rather violent outbreaks of glanders occurred during 1909: one in Jacksonville in February and the other in Ocala in July. In Jacksonville eighty-one horses and mules, and in Ocala fifty-nine

horses and mules, reacted to the mallein test and except in a few instances, were killed, disposed of and paid for by the Board under authority of an Act of the Legislature of 1909.

It may be considered a commendable spirit of interest in the live stock industry of the State by the Legislature when it is proposed to reimburse owners of glandered animals killed on account of that disease, but it can be appreciated that without some care and a searching inquiry there is a possibility of imposition by dealers who can, without successful detection, introduce diseased animals from neighboring States into Florida, to be paid for at the expense of the taxpayers of this State. The Act governing this feature of the sanitary control of diseases of the lower animals, although very carefully drawn and hedged about with seemingly all needful precautions, can be abused notwithstanding the utmost caution to prevent fraud.

Tuberculosis of Milch Herds:

The work of the Veterinary Division of the Board has extended further, however, than to the detection of glanders. The milch herds of the State have had attention and have been tested whenever request has been made for that service. During the year the tuberculin test has been applied to 289 cows, of which number nineteen have reacted, and, under an agreement between the owners and the executive office, have been marked so as to be designated in future tests of the same herd.

The necessity for pure milk not only as a staple article of food for the well, but as nourishment for the young and sick, cannot be too strongly urged, and recognizing this truth, the executive office has rendered service to the dairymen of the State and to private owners as well—and as speedily as possible—when conditions for testing were practicable or advisable.

The use of milk from cows which have reacted to the tuberculin test has been advised against without first subjecting it to pasteurization or the employment of other measures which shall destroy the bacilli of tuberculosis existing therein.

It is not recommended by the executive officer that cows reacting to the tuberculin test shall be destroyed, but rather that they shall be treated according to the Bang method, which is to separate the reactors from the well and to prohibit the use of milk from these reactors unless it is pasteurized; that is to say, milk brought to a boiling point and then rapidly cooled. The meat of tuberculous cattle is not interdicted for food, but should be labeled that the public may know of the condition under which it is sold and bought.

Attention is invited to the low percentage of reactions; viz., 6.57%, which have followed so far the testing of the milch herds in the State. This is a pleasing exhibition of the absence of tuberculosis among a great majority of the dairy cattle.

HYDROPHOBIA.

At the Bacteriological Laboratory of the Board the heads of 68 dogs have been examined with positive findings in 32 instances of the Negri bodies, which is indicative of the rabid condition of the animal. In 1888 Pasteur, an eminent French biologist and bacteriologist, found that the injection of a serum from the spinal cords of rabbits which had been inoculated with an emulsion from the brain of rabid animals, was a preventive to a development of hydrophobia in a person who had been infected by the bite of a rabid animal. Various institutions for the preparation of this anti-rabic vaccine have been established not only in Europe, but in this country, and likewise other institutions for the treatment of persons so infected, but not until quite recently has the problem been solved by which individuals so unfortunately attacked can be treated at their own homes. The State Board of Health of Florida has for the past year employed this method and has been enabled to furnish the Pasteur treatment from the Alexander Laboratories at Marietta, Pa., direct to the individuals at their own homes, thus saving the expense of not only railway fare and board, but other necessary incidental expenses for those of its citizens who have been attacked by rabid animals in the State.

So far, in all the cases treated in this manner, the Board has not learned of any disastrous effects following the treatment nor has there been any evidence of hydrophobia subsequent to the injections of the vaccine, except in one case, at Carrabelle, where the instructions for regular daily injections were not followed, the patient failing to present himself twice on stated days for the same, and also having stated to the attending physician that a mild bite had been inflicted, when, as has been since found, the same animal had on two or three successive days bitten the patient.

The Board has, during the past year, administered the Pasteur treatment to forty-eight patients, the total cost to the State being approximately $1,400 for the entire year.

The method pursued is as follows: When a dog or other animal suspected of having rabies, bites a person, it is advised that the animal be kept confined for a period of ten days. If the animal has rabies, death will follow within that time. Then the head of the animal should be packed in ice and sent to the laboratory of the State Board of Health at Jacksonville, for examination.

The family physician should attend to the packing and at once cauterize the wound made by the bite if it can be seen early—a few minutes to an hour or two. At the time the head is sent a letter should be written giving full information as to the symptoms of the dog, the name of patient, location and extent of the bite, etc. This done, await results.

When the head is received at the laboratory, it is examined for Negri bodies. If they are found it means that the animal had rabies. The patient should accordingly receive the Pasteur treatment.

This determined, the Board wires the laboratory in Marietta, Pa., where the treatment is prepared, requesting that it be sent to the family physician. The physician treats the patient at home. This is the most satisfactory arrangement possible to conceive of at the present time. The State examines the dog's head, makes the diagnosis and furnishes the treatment.

The family physician administers the treatment and the patient does not have to leave home. The total cost to the State is $30 per case. The total cost to the patient is the physician's fees—about $21. There is no loss of time and little anxiety.

If, in the course of time, it is found that the number of cases of rabies increase in the State, it would be an economical procedure for the State to prepare its own anti-rabic vaccine. It would have been justified in doing so this year if it had had the necessary laboratory space. When the annual cost of this anti-rabic treatment equals or exceeds twelve hundred dollars, it will be found cheaper for the State to prepare its own treatment. Thus, the Georgia State Board of Health has found that it costs them only about four dollars a case to prepare the treatment, but that is for a large number of cases. The larger the number of cases, the cheaper, proportionately, can the vaccine be prepared. It is altogether likely that the Board will find it necessary to do this work in the not very distant future. In constructing laboratory buildings, this contingency should be kept in mind.

HOOKWORM DISEASE.

(*Uncinariasis.*)

Its History in Florida:

In 1902, Dr. H. F. Harris, of Atlanta, Ga., announced that hookworm disease was a wide-spread malady throughout the South. Ten days later the United States Public Health and Marine Hospital Service at Washington published Bulletin No. 10 of the Hygienic Laboratory, entitled *A Report Upon the Prevalence and Geographic Distribution of Hookworm Disease in the United States,* prepared by Dr. Ch. Wardell Stiles, in which it was shown that the disease existed to an alarming extent, at least in sections. In January of 1903 Drs. Adamson and Helms of Tampa, began to observe the disease in that part of the State. Early in that year Dr. Adamson told Dr. Byrd, Assistant to the State Health Officer, of his observations. Dr. Byrd was at that time engaged in the field work of the State Board of Health. He at once took cognizance of the trouble, and the actual work done by the State Board of Health of Florida with hookworm disease dates from that time. In June of that year Dr. A. E. Conter read a paper before the Jefferson County (Florida) Medical Society upon Hookworm Disease.

From 1903 to 1906 the work of the State Board of Health consisted in making observations as to its prevalence, calling the attention of the physician to it, etc., wherever his other duties chanced to take him.

In 1906 the publication of FLORIDA HEALTH NOTES was revived by the State Board of Health. This gave the Board an opportunity to get into closer communication with the people of the State—physicians and laymen. The work of directing attention to hookworm disease was accordingly continued and intensified.

The Campaign in Florida:

But an active and aggressive campaign was formally launched against this trouble in 1908 when the State Board of Health had a representative meet with the Florida State Teachers' Association in their annual session at Gainesville. At that time it was pointed out to the teachers that the disease is widespread; that it is easily recognized, even by a layman; and that it is very amenable to treatment. This address was received very kindly, and the State Superintendent of Public Instruction requested that a copy of it be placed in the hands of every teacher in the State, he furnishing a list of the names for that purpose. Not only was the address sent to every teacher, but every teacher was placed upon the mailing list of HEALTH NOTES. The interest that it aroused throughout the State is almost unbelievable. The correspondence with the teachers on the subject has grown to be quite large.

At the same time it is to be observed that the physicians of the State, as becomes their profession, have also taken a lively interest in the subject, and have contributed largely to the information gathered by the State Board of Health. In 1904 a paper was read before the State Medical Association at Live Oak, on the subject; and in 1905, one by Dr. Terry of Jacksonville; and in 1906 the disease was dis-

cussed at Gainesville; and in 1907 a paper was read in Tampa by Dr. Freeman of Starke, who has been a pioneer in this work. Besides these State papers, many have been presented before County Medical Societies and other medical organizations throughout the State. And thus, by the various channels through which information has been disseminated throughout the State, not only the profession, but the teachers and others less directly interested, have come to possess a good general knowledge of the subject.

Just here it is pertinent that special mention should be made of the physicians of Florida in their relation to this disease. They have not only been prompt to recognize it, but they have been on the alert for it and have exerted themselves to a remarkable degree to rid their respective communities of it. Many and many a time have they been rebuffed when offering gratuitous treatment to people suffering with hookworms. Instead of holding back they have written the State Board of Health asking by what means the sufferers could be reached —tendering their services without money and without price—only appealing for an opportunity to serve. It was thus seen that no person in the State was too poor to get treatment for the asking, but the people would not. Many are too reticent about accepting charity. Some of the spirit manifested by Bishop Candler is found in every walk of life, from bishops and prelates to the hod carrier.

The State Health Officer then bearing all these things in mind and conceiving that it is the highest duty and privilege of the State Board of Health to suppress preventable disease and to relieve those who would otherwise continue to suffer, outlined a campaign last June, taking cognizance of the many factors bearing upon it—a campaign not for the total eradication of hookworm disease, for that is impossible: but for the amelioration of suffering from it, and within certain limits, to prevent its ravages.

Briefly, it was this: That the Board pay the attending physician for each indigent case treated. The sum is three dollars. The conditions are that the diagnosis must be confirmed by the laboratory; that a complete record of the case must be filed with the Board. This relieves the charity feature which is so distasteful to the rural white citizen. While he will refuse to accept gratuitous treatment from the family physician, he will accept it from the State Board of Health because the State Board of Health is sustained by direct taxation and he feels that in accepting the service of the Board he is only availing himself of the privilege for which he has already paid.

This makes the thousand doctors of Florida a thousand missionaries in the hookworm work. But more than that is needed. The reading public is well posted on the disease, but the great mass of sufferers come from the un-reading public and they cannot be reached by literature or by any other known means than personal contact. Accordingly, two physicians have been placed in the field to reach and instruct the un-reading population. These field workers are making a thorough and complete canvass of the State, meeting as far as possible, every sufferer and having a personal talk. The work was begun in Lee County because that is one of the worst infected counties in the State. In October, 1909, Dr. Diggett, assistant to the State Health Officer, took up the work there. With his microscope he went to Fort Myers. He first met the doctors and told them his mission. He then met the ministers, the teachers; he visited the schools, families, and wherever he found people suffering from the disease, he instituted treatment. He has spent now four months and thinks he will complete the canvass of the county in a short time. He thinks when he is through that there will not be a family in the county suffering from the disease that he will not have seen and talked with in person, explaining the disease in all its phases and instituting measures not only for cure of present suffering, but prevention of future. He thinks the amount of suffering from this disease will be reduced by at least fifty per cent. Not only does he make it a hookworm campaign, but all matters affecting the public health of the community are considered, and it is believed the result of the campaign will be felt in the general betterment of the public health immediately and that the result will last for a generation.

Dr. Young, assistant to the State Health Officer, is also engaged in this work, but was not detailed till after Christmas, though it should be said that he has taken advantage of every previous detail in various parts of the State to further this work. It should be observed just here that Drs. Young and Diggett, both of whom have seen several years service with the State Board of Health, are men who would be hard to replace. Too much cannot be said in their praise. They make friends for the Board wherever they go, by their scientific attainments, and their capability to meet and deal with difficult problems. The Board is more than fortunate in having associated with it in this very important field work two such men.

There are a number of physicians in the State who deserve special mention as having devoted so largely of their time and energies to

this subject, but when it comes to giving such mention there are so many others equally deserving, that it would be an injustice to name a few without swelling the list out of all proportion.

As to the probable cost of this work: It is difficult to estimate. But of this we are sure: if the cost is great the good accomplished will be proportionately greater. For every three dollars expended, a little hookworm sufferer will be redeemed from the tortures of a living death. There is an old story of Prometheus being chained to a rock for the vultures to eat out his entrails every day. It was a story then—in this hookworm campaign it is a fact.

So if thirty thousand dollars are expended annually, it will mean ten thousand children rescued from death and brought back to life and health. It will mean ten thousand citizens, whereas without it, they would be ten thousand charges upon the State.

It is for the State Board of Health to determine at this meeting whether the State Health Officer shall be allowed to continue and to prosecute this rescue.

The Rockefeller Gift:

It is interesting to note that this plan of hookworm work which was conceived in June was finally arranged for in its many details of execution about the 1st of October, and on the 12th of that month Dr. E. W. Diggett, assistant to the State Health Officer, was detailed to go to Lee County to begin operations. Seventeen days later—on the 29th of October—the Associated Press announced that Mr. John D. Rockefeller had donated $1,000,000 for the eradication of hookworm disease in the South. A million dollars seems like a huge and magnificent sum to donate to such a purpose, but when we come to consider that a conservative estimate would place the number of hookworm sufferers in Florida alone at 90,000, and that they cannot be reached effectively for less than three dollars a case, and that in point of population Florida is the least of the fifteen Southern States suffering most, it will be seen after all what a trivial amount of money it is.

But the gift has already done a great deal of good and will continue to do more. It has attracted the attention of the people to the subject of hookworm disease; it has pointed out that it is a grave problem, and it has, in those States which did not have a health organization that could cope with the hookworm problem, stimulated an unusual interest, so that the indirect results of this million dollar offering will probably be infinitely greater than the direct result of its expenditure.

The State Health Officer believes that the thoughtfulness of Mr. Rockefeller is deserving of the highest commendation and that the sum total of results will be that other States will fall in line and soon Florida will not be the only State with an organized system of meeting this problem on a large scale and in a practical way.

BACTERIOLOGICAL LABORATORIES.

The Jacksonville Laboratory:

From the organization of the Board in 1889 until 1902, recommendations had been made in each year's Annual Report by the executive officer to establish a laboratory for bacteriological purposes, so that the presence of disease could be speedily determined and treatment quickly administered, with a view to decreasing sickness and preventing death. It was not, however, until the fall of 1902 that this recommendation was concurred in by the Board, and at that time a start was made towards the establishment of a laboratory for this purpose in connection with other work of the State Board of Health. The efforts in this direction which at first were very modest and for a few months limited in operation, have been appreciated, and gradually the benefits accruing to the medical profession and through the profession to the people at large, have been recognized, until within the past year or two the work of the laboratory has grown to such an extent that more room is demanded for proper prosecution in this direction.

Some of the influential citizens of Jacksonville appreciating the value of a State Bacteriological Laboratory and that it would be both to the benefit, dignity and reputation of the city that a building for this purpose should be constructed and operated in Jacksonville, set to work to bring about the accomplishment of this project, with the gratifying result that the city offers to the State Board of Health a site both desirable and of monetary value for this purpose, only providing that the Board will construct thereon a building suitable and commensurate with the value of the gift.

This proposition the State Board of Health has accepted and a very pretty site of about two and one-quarter acres at the foot of West Second street has, by resolution of the City Council, been donated. At a subsequent meeting of the Board a resolution was passed authorizing the construction of a building to cost not less than $25,000 and which is to be fully equipped with all modern appliances of laboratory appointment. The building is also to be constructed to accommodate the executive offices of the Board.

FLORIDA STATE LIBRARY

Laboratory Operations During 1909:

During the year there have been several changes in the Directorship of the Bacteriological Laboratory at Jacksonville, and in the summer the institution was closed at one time for a few weeks. Owing to these causes it is not possible to furnish, as in previous years, a complete detailed report of the operations of the laboratory during the year. However, the number of examinations made show a gratifying increase over the number in former years. A brief summary of the year's work is given in the following tabulation:

Examinations Made at the Bacteriological Laboratory, Jacksonville, 1909

Character of Specimen	Result of Examination		Not Examined	Totals
	Positive	Negative		
Malaria	745	865	65	1,675
Typhoid	224	1,075	21	1,320
Tuberculosis	360	619	28	1,007
Diphtheria	199	239	6	444
Gonorrhea	132	184	24	340
Urine	...	...	..	212
Water	...	...	..	7
Rabies	32	21	5	68
Intestinal Parasites:				
Uncinaria	248	397	23	668
Tapeworm	10	...	1	11
Roundworm	5	...	..	5
Trichocephalus	5	...	..	5
Total number of specimens				5,762

The Tampa Laboratory:

As has been said the work of the laboratory has been constantly increasing and to such an extent that a demand came also from the southern section of the State for a branch laboratory to be located at Tampa, the appeal being made not only by medical bodies, but by commercial bodies as well and the civic governments both of Tampa and of neighboring towns in that section. This request the Board has seriously considered, and information having been obtained from the administrative government at Tallahassee that such a course would be legal, the same conditions that were initiated at Jacksonville were adopted at Tampa. The City Council of Tampa then presented to the Board a very valuable lot at the corner of Florida avenue and Constant street, for this purpose. Quite recently plans and specifications have been drawn for the building at Tampa, which will be not only useful in all its appointments, but ornamental to the city; and contract has been awarded for its construction at a cost of $13,225.

It is probable that in the not very distant future a similar branch laboratory will be asked for in the western part of the State and the biological and bacteriological work which must result in great benefit not only to the health conditions generally, but to the determination of disease conditions in individuals, will be largely increased. That great good will result from these institutions is not to be disputed, for they form an important factor in the administration of health matters by the Board.

NEW LAWS AND RULINGS.

General Powers:

At the session of the Legislature in 1909 a very important enactment was adopted, which, according to eminent legal opinion, concedes to the Board full authority and power to provide by regulations and rules for the preservation of the public health in the State in all its various phases.

It is recommended, therefore, that the present rules and regulations of the Board shall be revised and additions made which will cover the specific authority granted by the following enactment:

Chapter 5931, Laws of Florida, 1909.

AN ACT to Authorize the State Board of Health to Adopt, Promulgate and Enforce Rules and Regulations for the Betterment and Protection of the Public Health of the State of Florida.

Be it Enacted by the Legislature of the State of Florida:

SECTION 1. That the State Board of Health shall have the power to make, adopt, promulgate and enforce rules and regulations from time to time requiring and providing for the thorough sanitation and disinfection of all passenger cars, sleeping cars, steamboats and other vehicles of transportation in this State, and also of all convict camps, penitentiaries, jails, factories, hotels, schools and other places used by or open to the public; to provide for the treatment, segregation and disinfection of animals having communicable, contagious or infectious diseases; to provide for the care, segregation and isolation of persons having, or suspected of having any communicable, contagious or infectious disease; to regulate the method of disposition of garbage or sewage and any other refuse matter in or near any incorporated city or town or unincorporated town or village of this State; to provide for the thorough investigation and study of the cause of all diseases, epidemic and otherwise, in this State, and the means for prevention of contagion and disease and the publication and distribution of such information as may contribute to the preservation of the public health, and the prevention of disease; to supervise and regulate municipal and county sanitation; and to make separate orders and rules to meet any

emergency not provided for by general rules and regulations for the purpose of suppressing nuisances and communicable, contagious and infectious diseases and other dangers to the public life and health: Provided, however, that nothing herein contained shall be construed as in any wise preventing or restricting any person so segregated or isolated from choosing his own method of treatment, or in any wise limiting any diseased person in his right to choose or select whatever method or mode of treatment he may believe to be the most efficacious in the cure of his ailment, Provided, however, that nothing herein contained shall be construed as in any wise limiting any duty, power or powers now possessed by or heretofore granted to the said State Board of Health by the statutes of this State, or as affecting, modifying or repealing any rule or regulation heretofore adopted by said Board.

SEC. 2. That any person who shall violate, disobey, refuse, omit, or neglect to comply with any rule of said State Board of Health made by it in pursuance of this act shall be guilty of a misdemeanor, and upon conviction thereof shall be punished in the manner provided by law for violation of the rules of said Board.

SEC. 3. This Act shall take effect immediately upon its approval by the Governor.

Approved May 29, 1909.

The Pollution of Streams:

Among the many bills passed by the last Legislature, there was an enactment regarding the pollution of streams in the State, the enforcement of which measure was placed upon the State Board of Health. The Statute is as follows:

Chapter 5954, Laws of Florida, 1909.

AN ACT to Prevent Pollution or Contamination of the Waters of the Lakes, Rivers, Streams and Ditches in the State of Florida, and Prescribing a Penalty for the Violation Hereof.

Be it Enacted by the Legislature of the State of Florida:

SECTION 1. Any person or persons, firm, company, corporation or association in this State, or the managing agent of any person or persons, firm, company, corporation or association in this State, or any duly elected, appointed or lawfully created State officer of this State, or any duly elected, appointed or lawfully created officer of any county, city, town, municipality, or municipal government in this State, who shall deposit, or who shall permit or allow any person or persons in their employ or under their control, management, or direction, to deposit in any of the waters of the lakes, rivers, streams and ditches in this State, any rubbish, filth, or poisonous or deleterious substance or substances, liable to affect the health of persons, fish or live stock, or place or deposit any such deleterious substance or substances in any place where the same may be washed or infiltered into any of the waters herein named, shall be deemed guilty of a misdemeanor, and upon conviction thereof in any court of competent jurisdiction, shall be fined in a sum of not more than five hundred dollars; Provided, further, That the carrying into effect of the provisions of this Act shall be under the supervision of the State Board of Health.

SEC. 2. This Act shall become effective on July 1st, 1909.

Approved June 7, 1909.

The Pollution of Peace River:

Within a few months after the adjournment of the Legislature, complaint was made to the State Board of Health by citizens of Zolfo, in DeSoto County, that Peace River was being polluted by the many phosphate plants located along that stream, and request was made that the Board should investigate the complaint and abate the nuisance.

The following correspondence gives a very clear insight into conditions which may occur anywhere in the State where the development of certain commercial interests will change the topography of the country and convert placid and clear streams into muddy water courses, but without harmful effects upon the public health.

ZOLFO, FLA., December 15, 1909.

State Board of Health, Jacksonville, Fla.

GENTLEMEN: Chapter 5954, Laws of Florida, Acts of 1909, prevents corporations or companies from the pollution of streams by depositing any substance in them or where it may be washed into said streams. * * *

There are a number of streams in this State in this condition. Peace River of this county (DeSoto), which was once a beautiful crystal stream, is now a muddy, filthy slough, where but few food fishes can live. Cattle bog in the mires made by the sediment of filth from the phosphate plants near its head. The health of the people near this stream is much poorer than formerly. The appearance of things along the stream will convince any observer that this covers the provision that 'It is liable to effect' and does effect the health of fish, people and live stock.

We are depending upon you with patience to take care of us in this matter and will be glad to give you any assistance in obtaining any proofs. We are Yours truly,

(Signed) CITIZENS OF ZOLFO.

By————.

This communication was referred to the attorney of the State Board of Health for an expression of opinion in regard to the extent

of authority possessed by the Board under this Statute, to which request the following reply was had:

JACKSONVILLE, FLA., December 28, 1909.

Dr. Joseph Y. Porter, State Health Officer, Key West, Fla.

DEAR DOCTOR: I am in receipt of your letter of the 22d, enclosing letter from ————, of Zolfo, regarding contamination of Peace River in violation of Chapter 5954, Acts of 1909. * * *

The reference to the State Board of Health contained in the Act seems to have no logical connection with the enactment, and it does not appear to me that the Board could properly do more than to make an examination and report of the conditions complained of, which could then be made the subject of a criminal prosecution by the State Attorney or County Solicitor having jurisdiction. I suggest, therefore, that the Board send a representative to make a written report, and his conclusions, if approved by the State Health Officer, might be forwarded to Mr. ————. If it appears to the State Health Officer that the facts reported constitute a violation of the Act, a suggestion might be made to Mr. ———— that he lay the matter before the State Attorney or County Solicitor having jurisdiction for such action as he might deem proper.

It is obvious that the State Board of Health is not a prosecuting attorney, and it is not charged with the duty of instituting criminal proceedings. What is meant by the statement that "the carrying into effect of the provisions of this Act shall be under the supervision of the State Board of Health" is at least a subject of difficulty and doubt. My construction of the Act, endeavoring to give effect to the quoted language, would be that the State Board of Health would simply make examinations and render reports when desired by parties interested or any competent authority, leaving the actual carrying into effect by criminal prosecutions to the officers already provided by law for that purpose. Yours very truly,

(Signed) E. J. L'ENGLE.

A copy of the communication from Zolfo was referred to Dr. C. T. Young, assistant to the State Health Officer, with instructions to visit DeSoto County and investigate the complaint. The following report was made by Dr. Young:

PLANT CITY, FLA., December 30, 1909.

State Health Officer, Jacksonville, Fla.

DEAR DOCTOR: I spent yesterday at Zolfo investigating the enclosed petition as directed by you. As the party who had made the complaint was some distance (fifteen miles) in the country, I did not get to see him; but the citizens of the place stated they could supply all the data and that the petition had been written at their request and merely forwarded.

Interviewing Messrs. Bethea, Powers, Roberts, High, Drs. Mobley, Sr. and Jr., and others interested about town, it was seen that their complaints centered about the following:

1. That the free discharge of unsedimented water from phosphate washers of mines situated near the head of the river had been followed by the disappearance of food fish, the river no longer being a proper habitat for them.

2. That the presence of the clayey particles in suspension had converted a beautiful crystal stream into an unsightly muddy slough, and further, that the constant sedimentation occurring along its course had rendered its banks and bed so miry as to make it dangerous for one to venture upon them. It was alleged that cattle often bogged while trying to drink and, unable to extricate themselves from the thick plastic mass, would die.

3. That on hot days the precipitated earth or marl at the bed of the creek would begin to "work" and rise to the surface, which it covered with a greenish yellow scum. The odor emitted was compared by Mr. High to that of a tanning yard.

4. And lastly, it was charged by the medical men of Zolfo and Wauchula that the contamination of the river with the wash water of the plants had been followed by a serious outbreak of typhoid and malaria at these places, and that the general health of the county had not been so good as formerly.

The Peace River rises near the center of Polk County, and flowing southbound for about eighty miles, empties into Charlotte Harbor. The tide rises up it as far as Liverpool. At no point are its waters used for drinking purposes, nor could I find a history of sewage being discharged into its flow. The water from phosphate washers—one located at Fort Meade, two at Bowling Green, one at Jane Jay and four on Whidden Creek—are turned into it. The stream crosses the railroad about a mile to the north of Zolfo and flows in a southwesterly direction about a half mile to the west. I saw no houses nearer than a quarter of a mile. After struggling through a dense growth of palmetto, its banks were finally reached. These were about ten to twelve feet high and separated by from fifty to seventy-five feet. The water was of a brownish color, opaque. The sides of the bed were coated with a clay colored film and up to the center of the stream was a long bar of what appeared to be sand. The amount of suspended matter did not appear to be very great. There was no odor to the stream nor was there a scum upon its surface. I saw no fish, nor any other form of life in its waters. The citizens stated that they have had some good rains lately; this, with the fact that some of the plants may not be operating at this season, possibly accounts for the modified, cloudy condition of the water.

Taking up the health side of the question with the doctors, I found them united in the firm belief that the discharge of slush from the plants into the river was the cause of all the malaria and typhoid they

were having or had had in the past. They admitted that its waters were not used for drinking purposes, nor were they polluted by sewage. "Then by ways they knew not of"—after their own admission that the privies were cleaned regularly every morning—by the hogs; that flies were very abundant in the town; that they even had a few mosquitoes—they continued unabated their former protestations. So charging it to the beliefs of the long ago or thoughts gone astray, I pass to the conclusion:

That while the free discharge of wash water laden with clayey or marl particles in suspension, into Peace River, has so affected it as to render the further existence of food fish in its waters impossible; that even though this suspended matter has changed many of its former characteristics, and its sedimentation has produced changes along its bed, it has not involved or influenced the health of the people living about its course. Yours very truly,

(Signed) C. T. YOUNG,
Assistant to the State Health Officer.

It is too often the opinion of many people that whatever is unsightly, ill smelling or comfort disturbing is injurious to health and may be a cause of sickness; and, too, while looking for a pertinent reason for disease conditions in localities, the real and inducing cause is overlooked—as in this case, regarding typhoid fever—in an eagerness to force a belief in accord with wrongly conceived ideas. The truth of the matter is that what ordinarily smells the worst may be the least harmful to health. A clear, cool liquid, sparkling in appearance, may be reeking with the germs of typhoid fever or cholera or amoebic dysentery. There is no odor, nor bad taste, nor appearance to warn of danger. The putrifying carcass of a dog, horse or cat is offensive to both sight and smell, but aside from those disagreeable features there is nothing in the rotting of animals to cause alarm. Open sewerage is preferable in seaport towns to vaults or middens, especially where ground water, either from artesian or driven wells, is used as the drinking supply. Filth in the streets is less objectionable in every point of sanitary reasoning than is garbage and putrefactive material hidden away in back yards and alleys. On the streets it will be removed before the quantity increases too largely, but when in the rear of premises and hidden from view, it remains until some patrolman, oftentimes by accident, discovers it.

The law in regard to the pollution of streams, is, nevertheless, a good one, and anticipates conditions in respect to drainage of sewage without purification into fresh water streams, when the population of the State increases and the disposal of such wastes becomes necessary.

At present there is no occasion for the State Board of Health to interpose its advice or authority for this cause, as there is no direct disposing of domestic wastes into the waters of the State which could or are now being used for drinking purposes. There is danger, however, of the underground streams and artesian waters of the State becoming contaminated by sewage drained into sink soles unless first treated to destroy bacteria which are capable of causing disease. Attention has been called to this subject before, and it is yet hoped that the State Geologist may determine the course of the underground streams in this State and the extent of connection which the "sinks" may have with the artesian water supply, or whether or not any such communication does occur between each.

Tuberculosis Sanitarium:

While the Legislature of 1909 is to be commended and thanked for the interest manifested in health matters, and the enactments passed for the better administration of sanitary and health control in the State are duly appreciated, yet it is to be regretted that when increasing the obligations of the Board in this direction to the public, at the same time it was thought necessary to deplete the treasury of the Board by diverting to another branch of the State government sixty thousand dollars of the State Board of Health fund, which the Board had hoped to use in the establishment of a sanitarium for the care of the indigent tuberculous citizens of the State, especially as the Legislature was pleased to grant the Board permission to inaugurate such a plan of relief. Not to be able to do this has been a keen disappointment to the State Health Officer, but the proposition has by no means been abandoned, but simply deferred until the Board shall be in sufficient funds to carry out a well-digested plant now in mind. To undertake this now would seriously embarrass the Board financially in view of the considerable outlay already contracted for in the construction and equipment of two laboratory buildings and in the hookworm work in which the Board is at present actively engaged.

FLORIDA HEALTH NOTES

To educate the people to reason for themselves on matters affecting their health and life, and to discuss the pros and cons of sanitary methods, is productive of a greater degree of physical development than a recourse to the hand of the law, no matter how gloved it may be, for the purpose of enforcing health ordinances.



THE EVOLUTION OF CONSUMPTION.

Cloth poster, 21x30 inches. Designed and issued by the State Board of Health of Florida, March, 1909. Printed in colors. English and Spanish editions. Widely distributed throughout Florida.

The State Board of Health of Florida has probably the most complete sanitary code on the Statute book of any State of the Union. The Legislature from time to time has added to the scope of authority and supervision in health matters which the State Board of Health can exercise, yet it is a remarkable fact, and one, too, that the State Health Officer is proud to relate, that not once in the twenty-one years of the Board's life, except in epidemic prevalences of yellow fever, has it instituted or initiated prosecution against any one or resort had to the Statutes to enforce a mandate or a recommendation. The policy of the Board may therefore be said to be *pacific measures, arguments and appeals to reason.*

In order to place before the people of the State its own conceived ideas, opinions or advice in regard to things needful to avoid disease and prolong life, a happy thought was hit upon in the proposition to talk to Florida people monthly by a little publication—the FLORIDA HEALTH NOTES—in which the latest views on sanitary matters would be set forth and the different phases of the health problem would be discussed. The favor which this little pamphlet has met, and the welcome given each month by the citizens of the State, has indeed been gratifying, and inspires to still greater effort in advancing the cause of educational sanitation. It has proven to be the best medium of communication between the State Board of Health and the great public of Florida, and it is appreciated for its efforts to give information in a simple and plain manner, free from technical language and mystifying theories. The people have become better acquainted with the Board and its methods, through reading the HEALTH NOTES. They feel assured that what they read can be repeated with a confidence begotten from a careful and painstaking investigation and presentation of the subject, for the HEALTH NOTES never makes a statement that cannot be "backed up" by the highest obtainable authority. What the NOTES says bearing upon scientific questions is pretty apt to be correct according to the very latest and most recent expressions or research on the subject.

Gradually, from a few hundred copies a month, the edition has increased—made so by the people's own demand—to sixteen thousand copies a month. These are mainly distributed in the State of Florida and reach the remotest sections of the State. That it does so is known because of correspondence with the office from distant and isolated points suggested by something said in the NOTES and which might not have caused inquiry had not the pamphlet been read. It has been

suggested that instead of issuing an Annual Report of the work of the Board, that the plans, propositions and work done by the Board shall be given in the NOTES each month, so that there shall be a closer touch with the public of the State, and a more intimate relationship maintained between the Health Department and the people. Thus will the needs of one as regards healthful measures and the suggestions of the other to acquire them, be brought into harmonious working.

THE COMMON DRINKING CUP

Whether or not the common drinking cup is capable of conveying contagion other than that of syphilis, is problematical. To abolish its use on sanitary grounds alone except for the specific trouble just mentioned, is a questionable exercise of authority which it is not believed is demanded other than for decency and cleanliness. Persons refined in taste hesitate to drink after every one who may use the ordinary drinking vessels in passenger trains and other public places. Delicate stomachs rebel at the thought of using a cup or glass which has just been drunk from by a mouth soiled with tobacco juice or filled with decayed teeth, and it is no uncommon practice for travelers to wash glasses before using them where there is but one glass or cup provided for everyone's handling. It is a mooted point, however, how far infection may be transmitted—tuberculosis for instance—by the promiscuous use of the common drinking cup on passenger trains, steamboats and other public vehicles, as well as in the corridors of hotels or offices of public buildings. There are no authoritative instances on record where tuberculosis has been conveyed in this manner, nor by kissing, although the popular belief seems to be that it is so transmitted. It is, however, positively known that syphilis may be so transmitted, and if the common drinking cup is or can be held responsible for a contamination of this nature, then the proposition is deserving of serious thought. It is true there are not many of these cases which can be cited, yet the public should know that syphilis can be transmitted in this way and should take means to avoid infection.

This subject—the common drinking cup—has been agitated in public health circles for some years and is again revived. Some State Boards of Health have quite recently passed stringent regulations on the subject, and trains entering States having such restrictive rules, are stripped at State lines of every form of public drinking contrivance which may be used by more than one person. It is becoming the practice more and more among educated people and those of refined habits

to avoid using the common drinking cup and to provide themselves when traveling with a collapsible cup of paraffine paper or of metal which may be carried in the pocket or hand bag. There is an ingenious device—an automatic slot machine—manufactured by several commercial concerns, from which travelers can procure a paraffine paper cup at the small cost of a penny each. With this apparatus installed on trains, steamboats and in public buildings, the general public can have the opportunity of supplying themselves with a clean and sanitary method of drinking, at a small cost. At the same time it would be advisable that a notice should be placed at every public drinking fount "This cup (or glass) should be thoroughly rinsed before being used. To neglect this precaution may cause you to be infected by disease." Thus will the traveling public be warned of a possible danger, however small it may be, and a method of education along lines of decency be advanced.

After some years of coaxing and argument, the Pullman Company has finally adopted the suggestion of the State Health Officer of Florida, and has now installed a "dental lavatory" for teeth and mouth washings, in their latest built sleeping cars. There was danger to the eyes in using a basin for face washing after being made use of for teeth cleansing. Besides, the practice was a filthy one and should be stopped. It was difficult to force people to use a cuspidor to dispose of mouth washings, on account of the jolting of the train and the splash and slop caused by the running of the cars. There was no regulation made compelling the construction of the "tooth basin," but argument and reason were used to persuade and convince. It was tried first as an experiment, so the State Health Officer was told by the Pullman Company, and now convinced that the plan works admirably it has been finally adopted as a part of the construction of all cars.

So it will be with the substitute for the common drinking cup. Some months ago the State Health Officer wrote to the managers of the several railroads operating in Florida urging adoption of the machine device for furnishing drinking cups to individual travelers at a small cost, basing the request on both the probable transmission of disease through the use of the common drinking vessel and on the broad ground of cleanliness and decency. There was general objection shown in the answers received. The Board has had the authority for six months to compel the adoption of a machine device which would provide the traveling public with an individual cup at a small cost, or, to say it in another way, to prohibit the use of the general drinking

cup; but it has relied upon the management of the several railroads in the State to appreciate the necessity and to voluntarily adopt some means by which the general traveling public can be supplied with individual cups at a cost which will permit their use by all who may desire a more cleanly means of quenching thirst. It is gratifying to state that the advice offered in this matter has not been without fruitful results. The Seaboard Air Line Railroad is the first of the many roads doing business in Florida to adopt the plan, thus enabling their patrons to have the means of drinking water without fear of getting some of the "left over" from dirty mouths of other people. The abolishment of the common drinking cup is an object lesson in individual hygiene which, as an educational measure along with others of the same charcter, must finally result in decided benefit to all classes.

To use a drinking vessel handled by any and every one who comes along, or to use a basin to receive mouth washings, is not cleanly nor decent, and it should always be remembered that cleanliness is the foundation of sanitation—the key-stone binding the arch which shall give support and strength to the whole structure of healthful living.

While it is the duty of the guardians of the public health to observe and take cognizance of every means by which the public in general and individuals in particular may be menaced by disease, yet restrictions of the movements and habits of the people should be carefully considered and directed altogether along practical lines. It is the practical sanitarian rather than the theorist, who holds the confidence of the people.

THE LICENSING OF EMBALMERS

In 1895 the American Association of Baggage Masters at a committee meeting considered the necessity for some regulation in regard to the transportation of dead bodies, as up to that time not infrequently caskets were carried on the outside of baggage cars because of the advanced decomposition of contents; and again, the baggage masters were fearful of contracting disease by handling coffins and caskets containing bodies which had not been properly embalmed and which might have died of contagious sickness. Accordingly, the matter was presented to the National Funeral Directors' Association, to the American Medical Association, the American Public Health Association, and likewise to the Conference of State and Provincial Boards of Health at meetings of those bodies following the action taken by the baggage masters. The necessity for a uniform regulation governing the transportation of dead bodies was so apparent that committees from the bodies named were appointed to formulate needful rules which might be adopted by all the States having State Boards of Health, with a view of restricting such diseases as might be dangerous to the public by transporting bodies dying from such causes, and to prescribe a manner of preparation as well as of construction and material for caskets. In the course of time these regulations were presented and adopted, and the different State Boards of Health were requested to enforce their observance within the jurisdiction of each.

Among other requirements, it was specified that bodies should not be shipped from one State into another without being properly embalmed. To effect this requirement in Florida so that a dead body might be properly prepared by persons or firms having due knowledge and practical ability to do the work, the Funeral Directors' Association of Florida asked the State Board of Health to provide an examining board for this purpose, to issue licenses only to those who qualified under an examination, and to likewise instruct the transportation companies of the State to refuse for transportation all dead bodies not prepared for shipment by duly licensed embalmers. The practice has been followed for several years, but this last year the question of the authority of the State Board of Health to act in this capacity and to issue licenses for this purpose being called in question, the opinion of the Attorney-General of the State was asked for on the legality of the Board's regulation in this regard, citing Section 1120 of the General Statutes as supposed approval for this action.

The following correspondence with the Attorney-General and the Railroad Commission, on the subject, discusses the merits of the contention both from the viewpoint of laws as well as expediency, and the final conclusion of the Attorney-General confirms the belief which the Board has had all along as to the necessity for action on the part of the Board—made so by the demands of public health protection—and without which, confusion and perhaps serious inconvenience, and, in this particular instance, possible damage suits between the public and the transportation companies, might arise.

JACKSONVILLE, FLA., October 29, 1909.

Hon. Park Trammell, Attorney-General, Tallahassee, Fla.

DEAR SIR: Will you kindly inform me whether the State Board of Health has the legal right under the Statutes of the State to provide for a Board of Examiners to determine the qualifications of individuals to embalm dead bodies, and then to issue licenses for the same; and

further can the Board by rules and regulations prescribe the nature and character of said examinations to determine the fitness of applicants for this work; and by rule prohibit embalming and transportation of bodies by others than embalmers regularly licensed by the State Board of Health?

The transportation companies will not transport bodies from Florida to States beyond unless properly embalmed so as to insure them against possible damage for interruption of transportation, supposing that putrefactive changes should require immediate interment.

I am not quite clear whether the Statute, Chapter 5931, passed by the last Legislature, covers this point, and I would be very much obliged to you for a reply and decision as to the construction of the law in this regard as soon as may be convenient for you to let me have it. Yours very truly,

(Signed) JOSEPH Y. PORTER,
State Health Officer.

To this letter the following reply was had.

TALLAHASSEE, FLA., November 1, 1909.

Hon. Joseph Y. Porter, State Health Officer, Jacksonville, Fla.

DEAR SIR: In reply to your letter of the 29th ultimo, I beg to say that in my opinion, Chapter 5931 of the Acts of 1909, does not authorize the Board of Health to provide for board of examiners to determine the qualifications of embalmers. The law authorizes such action as is necessary to prevent contagion, but it does not appear to me that it goes far enough to reach the question of embalming in cases where death was not caused from a contagious disease.

Yours very truly,

(Signed) PARK TRAMMELL.

After a further consideration of the question by the executive officer, it was decided to take the matter up with the Attorney-General again, and a letter as follows was written:

JACKSONVILLE, FLA., November 29, 1909.

Hon. Park Trammell, Attorney-General, Tallahassee, Fla.

DEAR SIR: Referring to your letter of November 1st giving me your opinion as to the powers of the State Board of Health in licensing embalmers to practice their art in preparing dead bodies for transportation in or without the State, and in which it was stated that the Board has no such authority to act under the Statute, I desire respectfully to invite your attention to certain facts and to ask your advice in regard to the same, in order, first, that the difficulty which confronts the Board and the undertakers of the State may be obviated; and

second, that the State Board of Health may be placed in a correct position as to its duties in this matter before the other State Boards and Health authorities of the country.

The States to the north of Florida forbid the transportation of bodies into or through their State without a permit signed by the State Health Officer or some representative of the State Board of Health, certifying that the body has been properly prepared by embalming for the purpose of transportation, so that it will not be a menace to the public health nor be objectionable in transportation. It is submitted to you, therefore that the State Board of Health of Florida cannot conscientiously or legally certify that bodies have been prepared by an embalmer unless it obtains a knowledge of the individual performing the work, through an examination to determine the qualifications, knowledge and fitness to practice the trade. If the State Board of Health refuses through its agents to certify to the transportation permits as has been the custom for the past ten or fifteen years, then a difficulty is going to arise, because the railroads are not likely to receive such transportation with the possibility of the work having been done by an unqualified embalmer and the consequent probability of the body decomposing to such an extent that it would have to be diverted from the route and buried while in transit; all of which is likely to entail a law suit and damages upon the company for non-delivery of corpse.

It occurs to me that as it is the work of embalmers to preserve a dead body so that it can be safely transported, and further to destroy germs of infectious or contagious diseases in the dead body so that it will not be a menace to the public health, that quite properly the State Board of Health under such a view of conditions might be permitted under the general health clause of the Statutes (Section 1120, General Statutes, 1906), to exercise a supervision over firms or individuals who intend to engage in the business of embalming.

I will be exceedingly obliged to you if you will review this recent opinion of yours and inform me at your earliest convenience after considering the phases of the question as presented herein, of your further opinion in the premises.

I enclose you a copy of the Transportation Permit which has been, with some alterations once or twice, used by the State Board of Health since the Board was organized. This perfected form was adopted by a committee of the American Medical Association and the American Public Health Association in conference with the Baggage Masters' Association, some six or eight years ago. On the reverse side of the "original" will be found the rules and regulations of the State Board of Health relating to the subject. Yours very truly,

(Signed) JOSEPH Y. PORTER,
State Health Officer.

Some few days later the question of the regulation of this matter was laid before the Railroad Commission of Florida, in the following communication:

JACKSONVILLE, FLA., December 3, 1909.

The Honorable Railroad Commissioners of Florida, Tallahassee, Fla.

GENTLEMEN: It is desired to present to the Railroad Commission of Florida certain facts of railway sanitation, which, notwithstanding the authority granted by the Legislature of 1909, in Chapter 5931, "That the State Board of Health shall have the power to make, adopt, promulgate, and enforce rules and regulations from time to time requiring and providing for the thorough sanitation and disinfection of all passenger cars, sleeping cars," etc., does not, according to the enclosed copy of an opinion of the Attorney-General of the State, appear to embrace the supervision of the transportation of the dead except when dying from communicable or contagious diseases.

A brief recital of the history of the subject of transportation of the dead is interesting and explains the reasons leading up to the action taken by the sanitary organizations of the United States at various times.

Prior to 1905 there was no general rule governing the transportation of the dead or the preparation of the same. In some instances there were regulations that almost or quite prohibited the shipment of a corpse into or out of the district. In other cases the question of the transportation of the dead was left largely in the hands of the railroads. These corporations for the protection of their own employees, and also because of the restrictions governing the delivery of the dead at destination, refused to carry bodies that had died of contagious diseases. The bodies that were received for transportation bore no evidence that they had been properly prepared for shipment and in many instances decomposition was so far advanced before they reached their destination that they were in every sense a nuisance in transit and at the place where received for burial. In the past it was no uncommon thing to find a coffin with its contents fastened on the platform of a baggage or express car because the stench coming from it was too great to be borne by those inside the car.

In 1895 a committee representing the American Association of General Baggage Agents, the National Funeral Directors' Association, and the Conference of State and Provincial Boards of Health of North America, was created to devise some plan by which safety and decency might be secured in the transportation of the dead. This committee formulated a set of rules governing the preparation and shipment of dead bodies.

The rules thus formulated were adopted by the Conference of State and Provincial Boards of Health of North America in 1897, and later by the American Medical Association.

The rules were slightly modified in 1901 and are in vogue at the present time. A copy of the Triplicate Transit Permit used in the State of Florida, is enclosed. On the reverse side of the original sheet will be found rules 20 to 27 of the State Board of Health, which are the rules formulated by the committee above mentioned and adopted by the conferences referred to.

This action on the part of the Conference of State and Provincial Boards of Health has no legal standing, but has since been legalized in most of the States, and are to that extent interstate rules governing the preparation and transportation of the dead.

The States which have not adopted such regulations are still suffering the inconvenience that characterized the transportation of the dead before the preparation of these uniform rules. Some five or six years ago they were adopted by the State Board of Health of Florida under Section 1120 of the General Statutes, which was at that time interpreted to mean that the State Board of Health had the power to govern the transportation of the dead to the extent that it affects the public health. The first requisite in carrying this out is of course to require those engaged in embalming and shipping the dead to be competent to so prepare bodies that they will not decompose in transit. The Board accordingly held examinations and created a system of licensing embalmers who were found qualified to ship bodies in accordance with these rules. The transportation companies of the State were instructed not to receive bodies except those prepared in such a manner as is approved of by the State Board of Health, and these companies have gladly complied with the request because it relieves them of the responsibility of inquiring into the preparation of bodies; and furthermore, it removes the risk that formerly accompanied the transportation of dead bodies (if dying from a communicable disease) to their employees and for bodies becoming a nuisance by decomposition. So that in actual practice it has been working satisfactorily in this State up to the present time.

The question being raised as to the authority of the State Board of Health to issue licenses for this purpose, to those passing the examinations which have been held from time to time, the matter was placed before the Attorney General to know if the State Board of Health had the legal authority to do this. The Attorney General advises that it has not. Still, circumstances are such that the State Board of Health can easily carry them out, but it places the transportation companies of the State in the predicament of leaning upon the State Board of Health to protect them in their rule of action, when the Attorney General has determined that the State Board of Health has no authority to determine or act upon the qualifications of persons engaged in this business except where communicable diseases come into the question.

Therefore, you can appreciate that if action should be taken on the ground that it is not a legal procedure, it would of necessity be an action against the transportation companies, and the companies in turn would rely upon the State Board of Health to protect them

and would accordingly probably suffer, because it appears that the statutes are such as not to sustain the position. The Board has no desire to put the transportation companies in this predicament.

Under the ruling of the Attorney General the State Board of Health does have the right to exercise any supervision over the transportation of bodies that have died of communicable diseases; so to that extent it appears that the action is legal; but bodies which have died of accident or of diseases not transmissable, it seems the Board has no authority to exercise any supervision over whatsoever, and they can become a nuisance and a menace to health if not properly prepared, particularly if several days are consumed in travel to ultimate destination.

Now, to relieve the embarrassment which would follow an action against the railroad companies for refusing to transport a body of this kind, the Board would respectfully request that the Railroad Commission adopt as Rules for the Transportation of the Dead the rules that have been adopted by the Conference of State and Provincial Boards of Health of North America and are now in effect in this State. This will relieve the railroads of any embarrassment should action be taken against them for refusal to transport, and it will be all that is necessary to effect a smooth and easy working plan of transportation of the dead, both in and out of the State.

Yours very truly,

(Signed) JOSEPH Y. PORTER,
State Health Officer.

However, before any action was taken by the Railroad Commission, the following opinion was given by the Attorney General, and this question was then considered as determined:

TALLAHASSEE, FLA., December 3, 1909.

Dr. J. Y. Porter, State Health Officer, Jacksonville, Fla.

DEAR SIR: I am in receipt of your letter of the 29th ultimo in regard to the power of the State Board of Health to prescribe rules and regulations for the examination and licensing of embalmers in this State, and asking if under the provisions of Section 1120 of the General Statutes of 1906, the Board has not this power.

This section of the law is pretty broad and leaves the matter of making rules and regulations for the supervision of the public health of the State in the hands of the State Board of Health. I should say that if the Board of Health deems that the examination and licensing of embalmers is necessary in the general supervision of the public health of the State, that this section would furnish the authority for making rules and regulations to accomplish such purpose.

As I understand it has been the Board's course in the past to require a person to successfully stand an examination under rules and regulations prescribed by the Board before such person could receive a certificate as a licensed embalmer; and that you only furnish certificates as to a body being properly prepared by embalming, when the embalming has been done by such a person. If I am correct in this I would suggest that you follow your usual course.

Yours very truly,

(Signed) PARK TRAMMELL.

As at first provided for, the examining board to determine the fitness of applicants to pursue the trade of embalming was and is yet composed of the State Health Officer, the bacteriologist of the State Board of Health, and the president of the State Funeral Directors' Association. Examinations have consisted of written and oral questions, and have been conducted so as to ascertain the practical knowledge of those who wished to engage in this business. The dates for conducting the examinations have been set usually for the spring and autumn months an so as to at least inconvenience those desiring to undergo the test of fitness.

This feature of the Board's work is mentioned because it is not generally known, outside of a few, that the Board has cognizance of the movement of the dead (as well as of the living), not only to points within the State, but to other States; and that on the shipment of a properly embalmed corpse, which preparation must be certified to by a licensed embalmer of the State and approved of by a representative of the Board at the point of shipment, a copy of the transportation permit is mailed to the Board of Health of the State in which final interment is to be made.

EXPENDITURES—1909

The following tables of receipts and expenditures for 1909 show the total amount of money obtained from the State Treasurer and by special warrants from the State Comptroller, together with the manner of expenditure of such sums. At a glance, therefore, it can be learned how the money of the taxpayers for the support of the State Health Government has been expended, and the definite objects of such disbursements:

No. 1.

1909 Expenditures Shown in Detail

Per diem and mileage, members of the Board	$ 285.20
Salaries and Expenses:	
Salary, State Health Officer	3,000.00
Travel Expenses, State Health Officer	660.05
Salaries, Three Assistants to the State Health Officer	5,675.00
Travel Expenses, Three Assistants to the State Health Officer	1,826.52
Salaries, County Agents	3,150.00
Salary, Veterinarian	1,600.00
Travel Expenses, Veterinarian	565.21
Salaries, Sanitary Patrolman, Jacksonville, Pensacola, Tampa, Key West, and Miami	2,748.84
Maintenance of Office:	
Clerical Assistance, which includes pay of two clerks and office boy, together with salary and travel expenses of Secretary to the State Health Officer	3,770.08
General Office Expenses, including office rent, lights, telephones, postage, expressage, office fixtures and other incidental expenses	1,558.44
Printing, stationery, etc	2,838.88
Telegraph and telephone tolls	303.76
Miscellaneous, including insurance	253.55
Laboratory:	
Salaries, bacteriologist, assistant bacteriologist, and office boy	3,581.63
Equipment and maintenance	1,669.79
Equipment and maintenance, County Isolation Hospitals:	
Dade County	180.00
Duval County	1,167.80
Escambia County	462.20
Hillsboro County	480.00
Monroe County*	92.00
Expense incident to smallpox	21.55
Vaccine virus	105.75
Sera: anti-diphtheretic and anti-tetanic	324.58
Pasteur treatment for the prevention of hydrophobia	1,211.25
Reimbursement for glandered animals	8,585.00
Total amount expended	$ 46,117.08

No. 2.

Statement of money received upon requisition on the State Comptroller, showing amount of the requisitions, amounts expended by the Board to meet current expenses, and the amount returned to the Comptroller together with vouchers in settlement of each month's account, respectively:

*Destroyed by fire June 14th, 1909.

	Regular Requisitions.	Special Requisitions.	Expended.	Returned to Comptroller.
January	$2,500.00	$.....	$2,486.11	$ 13.89
January		348.32	348.32	
February	2,500.00		2,353.77	146.23
March	2,500.00		2,498.60	1.40
March		186.00	186.00	
March		817.25	817.25	
March		460.39	460.39	
April	2,500.00		2,448.65	51.35
May	2,500.00		2,466.63	33.37
May		596.91	596.91	
June	2,500.00		2,499.49	.51
June		814.75	814.75	
July	2,500.00		2,486.45	13.55
July		825.44	825.44	
August		825.00	825.00	
August		150.00	150.00	
August	2,500.00		1,927.24	572.76
August		726.14	726.14	
August		600.00	600.00	
August		800.00	800.00	
September	2,500.00		1,791.08	708.92
September		750.00	750.00	
September		1,027.73	1,027.73	
September		960.00	960.00	
October	2,500.00		1,780.84	719.16
October		1,024.76	1,024.76	
October		5,175.00	5,175.00	
November	2,500.00		1,942.14	557.86
November		1,426.10	1,426.10	
December	2,500.00		1,965.44	534.56
December		799.95	799.95	
December		75.00	75.00	
December		1,081.90	1,081.90	
Totals	$30,000.00	$19,470.64	$46,117.08	$3,353.56

Amount monthly requisitions	$30,000.00	
Amount special requisitions	19,470.64	
Amount expended by the Board		$46,117.08
Amount returned to the Comptroller		3,353.56
	$49,470.64	$49,470.64

While speaking of disbursements for various purposes in the public health work of the State, it is well to invite attention to an increase for the past two years in the one item alone of transportation of the

Board's employees when engaged in inspections, care of contagious disease or acting in an educational way as missionaries of the gospel of good health.

Formerly the different railroads and transportation companies operating in Florida gave each year free transportation privileges to the employees of the State Board of Health on roads which were conducted within State lines. Early in the history of the Board's organization the State Health Officer consulted the chairman of the Judiciary Committee of the House of Representatives at one of the sessions of the Legislature, as to the legality of accepting free transportation for himself and the other employees of the Board. An approving answer was received and up to the time when the Legislature forbade by enactment the issuing or receiving of the privilege, the State Board of Health was annually remembered in this way by the transportation companies of the State. The managements of the railroads seemed both willing and pleased to do this, for it was recognized that the benefits accruing to them by frequent visits of the State Health Officer and his assistants to different points were mutually reciprocal. The railroads received speedy correction of unsanitary conditions in towns along the line of their route, and the Board derived a pecuniary service in being able to more frequently dispatch assistants. In the case of the former, increased travel resulted, and in the other a lessened expense to the people followed. There was nothing subversive to good morals nor was the dignity of the State impaired.

But with the enactment forbidding this reciprocity between the railroads and the State Board of Health the privilege was cut off, and now when requests come for investigation of defects or what are thought to be, and a determination wished for in sanitary matters, the cost of sending someone to look into the complaint becomes a serious one for the executive officer of the Board to consider. When the railroads gave free service to the employees of the Board the travel expense of the State Health Officer and his assistants when engaged in the health work of the State, was limited to actual expenditures for food and lodging. The individual employee derived no material benefit from the generosity of the transportation companies, but the taxpayers of the State did. There are some States which require the transportation companies having charters from the Commonwealth, to furnish transportation at all times to health officers on showing their badges, attention called to which is considered as traveling in the interest of the State Board of Health and in public

health work. In times of epidemics or extended prevalence of contagious disease, it very materially aids the common cause and the people that the health assistants should have the privilege of movement rapidly and without question. They are performing a sanitary duty in the interest of the commercial bodies and aiding in lessening confusion of travel and freight. Therefore, a badge, which is meant only to designate authority, should be the only requisite to board any train or steamboat and receive courtesies and attention equally with other passengers.

Especially, in the hookworm campaign, in which the State Board of Health is now actively engaged, a privilege of free transportation for the assistants in the field would mean much to the Board, not only in convenience, but in monetary expense.

In correcting what was thought to be an evil of "passes" which might be given in return for political favors, or to prevent those rare cases where free transportation was given and accepted and the State charged up with travel expense, the Legislature has increased the expense of the State Board of Health and very materially decreased the advantage to the people which a free travel for the assistants of the executive officer would yield in an educational crusade.

RECOMMENDATIONS

There are no recommendations to be made for the better administration of the public health. The Board now has ample authority to do whatever is needful in all things relating to or as affecting the public health of the citizens of Florida. As in the past the State Health Officer will exercise a careful oversight over all expenditures, avoiding useless or unnecessary expenses, but likewise not permitting the efficient working of the Board to suffer through an illiberal parsimony. What the State Health Officer desires more than law or money is a cooperation by the citizens of Florida in his efforts for their welfare, and an earnest, determined and whole-souled assistance, for without this help neither law nor money can avail anything.

Respectfully submitted,

JOSEPH Y. PORTER,
State Health Officer.

REPORT OF DR. C. T. YOUNG

ASSISTANT TO THE STATE HEALTH OFFICER.

PLANT CITY, FLA., January 1, 1910.

Dr. Joseph Y. Porter, State Health Officer, Jacksonville, Fla.

DEAR DOCTOR: I have the honor to submit herewith my report for the year 1909.

The tabulated list covers in a brief manner the details for that period, and since more complete reports were made at the time, it is thought best to omit them here, thereby avoiding tedious repetition and at the same time affording space for more interesting matter.

Respectfully,

(Signed) C. T. YOUNG,
Assistant to the State Health Officer.

STATEMENT OF DETAILS DURING 1909

Place.	County.	Date.	Disease.	No. of Cases	Race W	Race B	Source.	Remarks.
Winter Garden..	Orange.....	Jan. 23...		...	...	...	Lakeland.....	Sanitary inspection.
Oakland.....	Orange.....	Feb. 25...	Chicken pox	2	2	...	Ocala.....	
Floral City.....	Citrus.....	Feb. 27...	Chicken pox	1	1	...		
Bartow.....	Polk.....	March 7...	Chicken pox	1	...	1		
Ocala.....	Marion.....	March 15...	Smallpox	1	...	1		
Woodstock.....	Baker.....	April 13...	Smallpox	1	...	1		
Tallahassee.....	Leon.....	April 14...	Smallpox	2	2	...		
Campville.....	Alachua.....	April 21...	Scabies	5	5	...		
Bowling Green..	DeSoto.....	March 24...	Dermatatis H.	1	1	...		
Ocala.....	Marion.....	June 3...	Typhoid	...	...	...		At Blitchton.
St. Petersburg...	Hillsboro.....	July 14...		...	...	...		Sanitary nuisance.
Newberry.....	Alachua.....	Sept. 11...		...	...	...		Septic tank inspection.
Dade City.....	Pasco.....	Sept. 15...	Scarlet fever	1	...	1		
Dade City.....	Pasco.....	Sept. 24...	Scarlet fever	...	...	...		
Lakeland.....	Polk.....	Oct. 1...	Pernicious malaria	4	...	4		
Lakeland.....	Polk.....	Oct. 5...	Rumor	...	...	...		
Dade City.....	Pasco.....	Oct. 10...	Scarlet fever	...	...	...		Final inspection.
DeLand.....	Volusia.....	Nov. 5...	Smallpox	5	...	5		
Newberry.....	Alachua.....	Nov. 22...	Smallpox	1	...	1		
Jacksonville.....	Duval.....	Dec. 1...		...	...	...		Temporary duty in Laboratory.
Quincy.....	Gadsden.....	Dec. 10...		...	...	...		Inspection of a minor eruption.
Zolfo.....	DeSoto.....	Dec. 29...	Sanitary Nuisance	...	...	...		Inspection of Peace River.

REPORT OF DR. E. W. DIGGETT

ASSISTANT TO THE STATE HEALTH OFFICER.

FORT MYERS, FLA., January 1, 1910.

Dr. Joseph Y. Porter, State Health Officer, Jacksonville, Fla.

DEAR DOCTOR: I have the honor to hand you herewith my annual report for the year ending December 31st, 1909.

The early part of the year was devoted by me, as directed, almost entirely to the prophylactic treatment of persons who had been exposed to rabies. About twenty cases for Pasteur treatment came under my care during the year.

A summary of the year's work is as follows:

Weekly trips were made to the Duval County Isolation Hospital, treating and observing a case of leprosy which had come under the observation of the State Board of Health. The Nastin treatment was given in this case for a period of six months, with apparently very little result. Later, iodide of mercury was administered, and for a time a decided improvement was observed.

On January 13th, I was detailed to look into a case of suspected smallpox on the outskirts of Jacksonville. Found upon investigation a family suffering with undoubted varicella.

March 16th: Ordered to proceed to Inverness, and made detailed report of the sanitary condition of the town.

March 17th: Ordered by wire to proceed to Blountstown, to investigate reported cases of smallpox. Found upon investigation a number of cases of varicella in Blountstown and immediate neighborhood. Traced the source of infection of these cases to Cypress, a town on the main line of the L. & N. Ry., where the local physician had diagnosed and treated a number of cases of varicella.

March 25th: Ordered to investigate the sanitary condition of a slaughter house maintained upon the outskirts of Jacksonville; after which a favorable report was made.

March 31st: Ordered to proceed to Marathon, the terminus of the Florida East Coast Railway Extension, to take charge of two cases of smallpox which had been seen and diagnosed by the State Health Officer. While on this detail, by direction of the State Health Officer, the condition, known among the laity as Cuban itch, was investigated. The line of the F. E. C. Ry. was followed as far as Miami, but no cases were found to exist.

April 17th: Ordered to proceed to Ozella and investigate reported cases of smallpox in that neighborhood; was not successful in finding any cases; apparently, a few cases of varicella had recently existed there.

April 24th: Proceeded to Crescent City, by order of the State Health Officer, to investigate a nuisance reported from that town. It was found upon investigation that quantities of dead fish were lying along the shores of the lake, the citizens complaining of the offensive odor given off by said fish. A full report was sent in to headquarters, with suggestions.

May 28th: Proceeded, as directed, to Marianna, to investigate suspected cases of smallpox reported from that town. Dr. Balzell was interviewed and accompanied me to see the suspected case. After a thorough inspection a diagnosis of varicella was made.

June 3d: Accompanied Dr. Hiram Byrd upon an investigation of typhoid fever in South Jacksonville.

June 11th: Proceeded to Carrabelle to demonstrate the Alexander method of administering the Pasteur treatment for the prevention of hydrophobia. Interviewed Dr. Blount, who had the patients in charge. In his presence two treatments were given, also necessary information for carrying out the rest of the treatment.

August 7th: Ordered to proceed to Daytona to confer with Dr. Kloch and to investigate the sanitary conditions of the town. In company with Dr. Kloch visited the city dumping ground; found the authorities were dumping the city refuse into an old marl pit on the outskirts of the town: the citizens nearby were complaining bitterly of the disagreeable odors arising from this pit, which most of the time, was partially filled with water. A special report of the situation was turned in at the office.

August 14th: Proceeded to Lloyd to demonstrate Alexander method of administering the Pasteur treatment. Interviewed the physician in charge of the cases, and in his presence administered two treatments, giving necessary information for the carrying out of rest of treatment.

August 19th: Investigated cases of varicella in South Jacksonville.

During the months of August and September and a part of October, a greater part of my time was spent in the laboratory of the State Board of Health at Jacksonville, assisting the bacteriologist, Dr. Holloway, in the laboratory work. In this way a certain amount of valuable experience in routine methods of examining specimens was gained.

October 12th: By order of the State Health Officer was detailed from Jacksonville on special duty in Lee County, investigating the prevalence of hookworm disease.

From that time forward my work has been confined to the investigation and treatment of *uncinariasis* in Lee County. A daily report has been sent in to headquarters, giving in detail the amount of ground covered, the number of microscopical examinations made and the number of cases under treatment. With the valuable aid of Dr. Godden, the medical missionary to the Seminole Indians, an effort was made to obtain specimens from the Indians, to demonstrate the presence of Uncinaria among their children, but with no success.*

*On a second trip to the camps of the Seminole Indians, in January of 1910, Dr. Diggett found that hookworm disease is prevalent to quite an extent among the Seminole children.

On our way to the Everglades the school at Immokalee was visited and a number of cases of Uncinaria found and treated.

I found Dr. Godden a very earnest and capable man. Too much cannot be said in favor of this magnificent work that is being carried on by the Episcopal Church, through Dr. Godden, for the moral, spiritual and physical welfare of the Indians.

Yours respectfully,

(Signed) E. W. DIGGETT,
Assistant to the State Health Officer.

REPORT OF THOMAS J. MAHAFFY, D. V. M.

VETERINARIAN TO STATE BOARD OF HEALTH.

JACKSONVILLE, FLA., January 1, 1910.

Dr. Joseph Y. Porter, State Health Officer, Jacksonville, Fla.

SIR: I have the honor to present my annual report for the year 1909.

The work of this Division of the State Board of Health has grown two-fold within the past year. Since the passage of the new law controlling communicable diseases I have been called on oftener than in previous years to investigate suspicious cases of glanders.

The work among the domestic animals and live stock has been confined almost solely to glanders and tuberculosis. Below you will find tables showing the number of investigations made, and the results:

No. 1.

Tuberculin Test as Applied to Cattle in Florida, 1909

COUNTY.	TOWN.	Month Tested.	Number of Cattle Tested. Positive.	Negative.	Total.
Alachua	Gainesville	April	..	32	..
Alachua	Gainesville	May	..	26	58
Duval	Jacksonville	February	..	1	..
Duval	Jacksonville	April	..	1	..
Duval	Jacksonville	May	..	32	..
Duval	Jacksonville	June	..	1	35
Hillsboro	Clearwater	December	9	10	..
Hillsboro	Plant City	April	1	5	25
Orange	Orlando	April	..	98	98
St. Johns	St. Augustine	April	..	53	53
Volusia	DeLand	December	9	11	20
Totals			19	270	289

Percentage of Reactions 6.57

No. 2.

Showing the details made in the investigation of suspicious cases of glanders, with results.

TOWN.	No. of Animals.	Results — Negative.	Positive.
Sanford	1	1	0
Floral City	1	1	0
Jacksonville	89	8	81
Center Hill	1	1	0
Seville	1	1	0
Falmouth	1	1	0
Ocala	161	102	59
Jacksonville	1	1	0
Miami	1	1 (Dead)	0
Satsuma	2	2	0
Jacksonville	1	1	0
Parrish	1	1 (Dead)	0
Citra	1	1	0
City Point	1	1	0
Sanford	1	1	0
Tampa	40	39	1
Quincy	1	1	0
Marietta	1	1	0
Sanford	1	1	0
Tampa	1	0	1
Bradentown	1	1	0
Live Oak	1 (Dead)	1 (Dead)	0
Miami	1	1	0
Totals	311	168	143

Several field calls of minor importance have been answered and reported in the usual manner. Quite a number of letters of inquiry as to different ailments of domestic animals have been received and answered. These have all been reported to the office and I will not repeat them here.

Respectfully submitted,

THOMAS J. MAHAFFY,
Veterinarian to State Board of Health.

REPORTS FROM COUNTY AGENTS

Alachua County.

J. Harrison Hodges, M. D., Agent.

I think all the physicians of the county agree that the health conditions of our people have been exceptionally good during the past year.

The public are gradually becoming more aroused to the importance of the prevalence of hookworm disease, especially in school children. This increase in interest and knowledge of the subject is due in great measure to the circulation of the Health Notes among our people, and to several public lectures which Dr. Hiram Byrd, Assistant State Health Officer, has given on the subject. Two able and lucid lectures of the sort were delivered before conventions of teachers in Gainesville, by Dr. Byrd. Now it is no unusual thing for a teacher to refer a child to a physician for examination for hookworms. The druggists tell me that the sale of thymol is gradually increasing.

Two suspected cases of pellagra have been reported from the county, and from the symptoms given there seems little doubt but that the diagnosis in each case was correct.

It is to be hoped that Congress will do something towards putting into effect the suggestion made by President Taft in his message that "all the bureaus and offices in the general government, which have to do with the public health or subjects akin thereto, should be united in one bureau to be called the 'Bureau of Public Health.'"

Bradford County.

A. H. Freeman, M. D., Agent.

I have tried to get reports from various parts of the county in order that I might make a more comprehensive report, but partially failed.

Tuberculosis has appeared to me to be more prevalent during the year, especially among the negroes. I am sure the death rate has been higher. A very few cases of diphtheria have occurred, and perhaps half a dozen cases of scarlet fever, with no deaths from either disease. Typhoid fever has prevailed as usual throughout the county, but the death rate has been higher.

Health Day was observed in a few schools of the county. The *Bradford County Telegraph* has contained from time to time articles on hookworm disease, pellagra and tuberculosis. The trustees of the Starke High School abolished the common drinking cup in the school, beginning the term of 1909-10, and the rule has been fairly well observed, especially in the lower grades where children are more teachable.

The Bradford County Medical Society contemplates an open session of its society early in 1910 to discuss hookworm disease and relevant health matters. A program is now being prepared. Our hope is to awaken the people to a lively sense of health conditions in the county and cause them to see that they may and should do much that will improve matters. Thousands of tallow-faced boys and girls in Bradford county constitute a mute appeal for somebody to wake up.

Brevard and St. Lucie Counties.

Leon A. Peek, M. D., Agent.

As agent for Brevard and St. Lucie counties, I have to report that health conditions were very good in this territory during the year 1909.

There were six cases in which human beings were bitten by rabid animals during the year. All were satisfactorily treated by the Pasteur method either at the Jacksonville office of the State Board of Health or by serum furnished by the Board direct.

There were some few cases of scarlet fever. Appropriate treatment and isolation cured all the cases and prevented epidemic conditions. There is very little tuberculosis among the white population, but it is increasing among the negroes.

The hookworm is well represented among the children especially. Most of our physicians have now learned to recognize the severe cases of hookworm infection, and give the proper remedy when cases present themselves for treatment. Not many people yet are informed as to the symptoms of hookworm disease so that numerous cases go untreated. The individual physician who preaches about hookworms and offers treatment is regarded with suspicion by many who should receive appropriate medicines. The problem of ridding the country of the parasite is complicated and requires years of education for the people and constant effort on the part of the public health authorities for its ultimate solution.

I have noticed that cases of hookworm infection occurring in my own practice are very apt to stop treatment before all the worms have been eradicated. They do not return after the most evident symptoms

have been alleviated. Many persons have asked me about hookworm disease, telling me that they read about it in the HEALTH NOTES. I wish that every registered voter in Florida could receive the HEALTH NOTES regularly and that each number of the bulletin had an article about hookworms. There are so many recent scientific advances in the recognition and treatment of disease and disease conditions that the public gets befuddled. "The crowd must have emphatic warning."

DADE COUNTY.

Jas. M. Jackson, Jr., Agent.

Another year has passed into history and it becomes my duty now, as the agent of the State Board of Health, to give an account of the health conditions during the past year in Dade county, not South Dade as heretofore, as at the last session of the Legislature this county was divided so that the territory formerly covered as agent now embraces the entire county, the northern portion having been made into the new county of Palm Peach.

The general health conditions for the year have been very good. In the early part of the year we had some few cases of chickenpox, which, promptly taken care of, soon ended without even a scare to mar the peace and quietude of our citizens.

During the latter part of March and April there occurred, in a period of about sixty days, fifteen (15) cases of typhoid fever, and for a time caused some anxiety as to the source; but a consultation of the medical profession and an analysis of the cases caused us all to come to the conclusion that the source was from the milk supply through carriers or vessels used, and the profession joined with me in asking or advising all using milk to sterilize same after it had been delivered to them for use. It was further advised that all citizens using surface or pump water and not supplied from the city water works, should boil same before using it for drinking purposes. These instructions were issued to the public through the daily press and the physicians in charge of cases gave very thorough and minute instructions to the families and nurses where cases were as to the care of same, and I am glad to say, all reports to the contrary notwithstanding, we have not had a new case since May 1st, 1909.

This small outbreak of typhoid, if you may so call it, caused much alarm in the towns above us, and I was reliably informed that at several small places the north of us it was positively stated that we

had more than two hundred cases at one time, and they are no doubt yet reporting cases in Miami.

This occurrence, like all ills, was not without its blessings, for up to this time our city had seen no necessity for the restriction of any white fluid called milk. The medical profession seeing the dangers, with the assistance of your agent, prepared and submitted to the City Council for its consideration and guidance two bills, one for the tuberculin testing of all cows from which milk was offered for sale in the city, and the other for examination and testing of all milks, and for the inspection of dairies. Both of these, having been put in shape for laws by the City Attorney, were passed and are now laws, and one of the medical profession, Dr. J. H. F. Mullet, was elected by the City Council as Food Inspector for the city, and has for some time been pefrorming his duties. When the question is now asked, Can we get good, pure milk in Miami? we feel no hesitancy in saying Yes. The duties of the inspector are hard and of necessity in some ways slow for, like all reforms, it meets with some opposition; but it has come to stay and will not only prove a blessing to the users, but to the dairymen themselves, for it will increase the consumption of their products.

The education along these lines will prove a great blessing, not only to the town, but to the county at large, for it will educate others to better understand how to handle foods for home consumption.

The constant incoming of sickened strangers within our gates has caused a few noble men to band themselves together looking to the formation of a charity hospital, which crystallized in the early spring of 1909 into the building of what is known as The Friendly Society Hospital for the care of the sick and friendless. Modest it may be, but it has covered a long felt want and it is hoped that it is only the beginning. This institution receives aid from both county and city and receives all classes of cases without respect to color or previous condition of servitude. While it has only one building and not a large number of beds for the care of the sick and injured, it does a good work. This becoming known, it soon had several tuberculosis patients among its number and they were put in tents on the lawn, but the grounds being in a thickly settled portion of the city, the council was soon met with petitions reciting the danger to the city's general welfare and health, and it is only last week that this association, with the assistance of the city's donating grounds and finances, has undertaken the erection of a tuberculosis camp in a reasonably isolated place one mile from the city limits, for the care and treatment of these tuber-

culosis cases. The effects of this latter step will mean more if possible than the establishment of the little hospital, for it will afford a place where these poor sufferers can be taken and cared for and thus diminish the possibility of infection of the entire family, especially where they are compelled to live in one and the same room or cramped quarters, with poor if any nourishment and but little care. The patient is thus given a chance for recovery and the family is saved the daily exposure to infection.

It is but just to the city and county to state that but few cases of tuberculosis have been found among residents of any long period, but the cases are among those who unwisely have been advised to come here for the benefit of the climate. We would not discourage any of these cases did we feel they were benefited here, but it is the observation of your agent after long consideration of the facts, that they do not do so well along this portion of the seaboard.

The headquarter hospital for the laborers of the Florida East Coast Railway Extension, where all sick and injured of a serious nature all along the line of construction from here to Key West, are sent and cared for without cost to themselves, but entirely at the expense of that grand man and developer, Mr. H. M. Flagler, is located at Miami. In view of the fact that there are employed in this force from one to five thousand persons as engineers, foremen and laborers, from all sections of the United States, the general interest in same has caused me to go carefully over the records of the sick, and in not one instance can I find a case of any communicable disease, such as typhoid fever, tuberculosis, hookworms and many others which could be named, that had originated in these camps. There have been only three cases of typhoid fever among the entire number sick and these were among new recruits or those who had just returned from vacation trips, and in no instance has there been any spread of the infection. The general health conditions of this force of men have been most excellent, massing as was necessary men from all climes, and it most certainly shows that the men have been well cared for, housed and fed. The sanitary conditions of the camps have been kept up to a high standard by the engineers in charge and in most cases would put the sanitary conditions of our towns to shame, as is shown above by the small amount of sickness among the employees.

Agreeable with the policy of the State Board, your agent and the medical profession of the county have been investigating the hookworm disease and watching for cases. I am glad to say that thus far but

very few cases have been found and I think we have a very small percentage as compared with other sections of the State.

The draining of the Everglades and the placing of these lands on the market has caused numerous inquiries to be made of me individually and through the State Health Officer as to conditions of health in these 'Glades. There being no actual residents in the interior of them where lands are now drained and sold, has made answer difficult to their inquiries; but to each and every one I have given a respectful answer and told them conditions as near as we could, and have also stated they were drawn from conditions of residents along its border. I have invariably stated that I believed the healthfulness would depend largely upon thorough drainage and the carrying out of proper sanitary conditions after settlement.

I feel that I cannot close this report without commending the State Board of Health and through them the State Health Officer and his assistant State health officers, for the high standard they have taken in health matters during this year just past. I know that to some of the public the fact that disease is amongst them is not in accordance with their way of thinking, but of one thing I feel certain: you have to arouse the people to the sense of danger they are taking both for themselves and their families, and keep them aroused, before it will be an easy matter to get them to apply the proper remedies.

I feel that you have done a most excellent work along the lines of tuberculosis, hookworm disease, flies and mosquitoes, and may the good work go on until each and every one, preventable as they are, shall be banished from our fair State.

If some must be timid and panicky as in all times there have been when battle was to be fought, let them retire to the rear and not criticize or deter, for the battle has been well begun and will be carried on even though they do not approve, until the hidden and devastating enemies over which many generations have slept and their offspring been mowed down to untimely graves, shall be subdued.

Science has given us the knowledge and it shall be and will be utilized by brave men until future generations shall enjoy that full measure of health to which they were born and to which such working bodies as our own State Board of Health, with an intelligent medical profession assisting, shall bring them.

DeSoto County.

R. L. Cline, M. D., Agent.

In reporting the health conditions of our county for the year 1909, it affords me pleasure to say that the general health has been better than during any previous year since I have been its agent, i. e., for six years. And I feel safe in saying that the efforts of the doctors to rid the people of hookworm disease has done more to give the people health and vigor than probably all other efforts combined. I have for six years given the hookworm disease much thought and year by year I am more firmly convinced that upwards of ninety per cent of the people of South Florida are infested. I, of course, except the well-drained cities with perfect sewerage systems. When the physicians realize the appalling prevalence of this most dread disease and then go about to relieve the condition, then and not until then, will we have our health millennium. We will not only have healthier, but the most vigorous boys and girls of all the land because we will have every inducement for health and strength.

The prevalence of malarial fevers has declined for the past few years, and we have had only a few sporadic cases of typhoid fever. I know of only one family that has had scarlet fever. Tuberculosis is so rare in our county that it almost grows out of memory. I have heard of no other contagious or infectious diseases during the year.

Escambia County.

W. E. Anderson, M. D., Agent.

Ideal health conditions have prevailed in this county during the year just closed. In February and the early part of March last we were fortunate in securing the tuberculosis exhibit from the National Association for the Prevention and Study of Tuberculosis, and it is a great pleasure to record the fact that popular interest was deeply aroused, not only in the subject of tuberculosis, but in the entire question of controlling the preventable diseases. Professor Routzahn, under whose diligent care the exhibition was conducted, seemed highly gratified at the results here; and stated that the audiences were larger and more enthusiastic than in other cities of the State, of even greater population. It is worthy of note, however, that the awakening and interest of the public mind has continually increased since then, and the march of scientific truth is being watched and studied more closely than are the questions of party politics. It is impossible to estimate the amount

of good done the public health interests through the medium of the Health Notes, issued by the State Board of Health; and its influence has spread so far that the lay press, catching the infection, keeps up the fight for better health protection. Our daily papers, the *Journal* and the *News*, contribute freely and fully of space and time to every question pertaining to, or in any way affecting the public health, and, in this manner, every invidual who reads at all may know the means of preventing the communicable diseases.

In this connection it may be well to state that the campaign begun a year or two ago by the State Board of Health against the hookworm disease meets with the unqualified approval of the medical profession, the press and the people of the community generally; and it is confidently expected that much good will result from the financial and educational methods employed in combating this disease. It is, however, my opinion, based upon some little observation, that the disease does not prevail here to the alarming extent so hysterically announced from other sections of the country.

Two, or possibly three, cases of pellagra have been observed in this county during the year, and it is probable that several other cases may have existed without detection.

The vital statistics of the city of Pensacola, so ably and accurately recorded by the city clerk, show a marked decrease in the number of deaths from tuberculosis; and a most satisfactory decline in those from typhoid fever, the latter due in a measure to the completion of our sanitary sewer system, but much more to the incessant fight throughout the spring and summer, of the *Daily Journal* of this city against the deadly house fly.

In the early months of the fall and winter of the year 1909 an unusual number of cases of *scarlatina simplex* appeared in this community. Many of the cases were so mild in character that they were not recognized nor reported by the attending physicians, and consequently, the disease assumed larger or more definite proportions and greater gravity, with the advance of the season, that its spread became somewhat alarming. However, it can now be stated that the situation is entirely under control. No fatalities were recorded among the number of cases reported.

Smallpox, from which we had enjoyed a comparative immunity for some months, appeared again in December, imported by the unvaccinated negroes from Alabama who seek employment on the wharves of this city and in the sawmills and lumber yards of the neighboring towns, especially during the winter when labor is in greater demand here.

Nine cases, one of which was fatal and which came here from Montgomery, Ala., in the eruptive stage, have so far been reported during the year. Much difficulty is being experienced in handling these cases in the northern and western borders of the county. Local means of transportation to the State Isolation Hospital, such as cabs, carriages, etc., is well nigh impossible in some cases; and the L. & N. Railroad Company, which in the past has so generously placed a special car without cost to the State Board of Health for this purpose, now refuses to lend this assistance, fearing a violation of the rules and regulations of the State Railroad Commission; and we are forced in some instances to adopt the only logical alternative—that is, to rely upon the watchfulness of the neighbors of an infected family in the execution of precautionary measures prior to disinfection. This method is not, of course, as satisfactory as it is in more densely populated centers, but no case has so far been recorded where the disease, once recognized and reported, has spread to other persons in that vicinity.

Many visits from this office have been made by the agent of the State Board of Health to various parts of the city of Pensacola and in the county also, in order to make a diagnosis in doubtful cases of the infectious diseases; and many disinfections of premises have been made under the direction of the active and efficient sanitary inspector of the State Board of Health.

You will find subjoined the vital statistic report* of the city of Pensacola, and also the report from this office showing the number of cases of infectious diseases in the county so far as can be ascertained. It is not possible to get the data as to the total number of deaths occurring in the county from tuberculosis and typhoid fever.

Total number of disinfections, 1909.....147
Transportation permits issued..... 69

Hamilton County.

R. Dean Tompkins, M. D., Agent.

As far as material results show I can see no great change in the sanitary conditions of Hamilton county for the past year. We have had the usual amount of minor diseases and the usual absence of any severe epidemics.

There has been no direct public work done on the two subjects, Tuberculosis and Uncinariasis, but with the increasing dissemination

*See page 78.

of literature in regard to these diseases, as well as the personal instructions and knowledge given by the physicians to their patients, there has certainly come about a more extensive familiarity with these diseases than formerly existed.

Hillsboro County.

Dr. Chas. Wm. Bartlett, Agent.

The annual report of operations in this county during the year 1909 does not show such a good year, due to an epidemic of malarial fever in the early part of the year and of measles in the latter part. Owing to these two troubles we have probably had the worst year in a good many in Tampa and the surrounding territory.

The malarial fever during the first five months of 1909 was probably due to the mild winter of 1908, the number of mosquitoes being large. Malarial infection was in a good many cases, of the severer types, and several deaths were reported from the disease.

Measles prevailed in the month of December, of which I have already made you a separate report,* and will only add that so far as I can trace it, the first case arrived in Tampa from Havana, Cuba, and developed in two days after arrival here. The first few cases seem to have developed in the near neighborhood of this case, no physician being called until the child had developed symptoms of bronchitis. Surrounding these cases other cases developed and spread all over Ybor City and West Tampa, as stated in the special report.

There were no cases of smallpox in the entire year 1909, and more surprising, not an alarm of yellow fever has been sounded during the whole summer.

Diphtheria has prevailed during the year more or less, but there has never been in Tampa a large number of cases. I have had ten houses outside of the city limits disinfected, and the city of Tampa disinfected seventy houses within the city limits for the same.

A few scattered cases of scarlet fever have been reported during the year, of which eight came to my notice. The houses in which the cases occurred were disinfected.

Of hookworm disease one single case applied to the office of the agent of the State Board of Health for treatment. Fecal matter was submitted to the laboratory and the disease proven to exist. Treatment having been given, the young man rapidly improved.

*See page 79 for special report in regard to measles in Tampa.

The tuberculosis banners in Spanish issued by the State Board of Health were placed in 185 cigar factories, coffee shops, barber shops, and other places. I am sorry to report that within two or three months almost every one of our banners had been pulled down, leaving few traces that they had ever been posted in the city. I believe, though, that the teaching of the banners is beginning to take hold of the people. I have had three applications for disinfection of houses in which tuberculosis had existed within the year, from the laity; by this I mean, without any physician intervening. This is indeed a modest beginning; but in my experience it is the first time that such a request has been made; and I report the fact as a landmark, for comparison in future years. Through physicians we had twenty-two houses disinfected within the city limits, and eight outside of the city limits, a total of thirty. I believe that banners in English and Spanish again posted in different public places would be desirable, as I believe that by their continued display we will undoubtedly obtain great benefit.

That the education of the public about tuberculosis is increasing can be easily seen in a drive through the city, noticing the porches and houses prepared for the open treatment of this disease; and here I desire to call to your attention an incident of my vacation in Cuba. During my stay in Havana I saw and often had in my hands match boxes manufactured in Havana, which, instead of the advertisement of the house printed thereon, had short paragraphs similar in character to those used by the State Boards of Health of New York and Florida. I thought these manufacturers were doing good work; and this incident is mentioned with the thought that some one may do as much for us.

Before closing this report I want to again direct attention to the unsanitary condition of our tenement houses and their lack of hygienic conditions, with the hope that some means may be devised by which we can improve the conditions now existing.

Jefferson County.

J. R. McEachern, M. D., Agent.

The health conditions in Jefferson county during the year 1909 have been very good. During the summer months a few cases of typhoid fever developed, the majority of which were mild.

There have been no cases of smallpox. Two cases of diphtheria were reported in Monticello, but owing to prompt isolation and the use of antitoxin, the disease did not spread.

There are a great many cases of hookworm disease among the poorer classes in the country districts. The doctors of the county are treating all who will take the treatment.

Your plan to treat this class of patients is a good one and I think will accomplish much toward the eradication of the disease in the State.

Lake County.

W. D. Bush, M. D., Agent.

I beg to submit the following report in regard to the health conditions existing in Lake county during 1909.

The spring weather was ideal and health could not have been better. June, however, brought the rainy seasons and during June and July rain was continuous; all the ponds and lakes filled to the highest and mosquitoes were plentiful. As soon as the water began to abate malarial fever followed, more than we have had in years; the disease being present until frost.

During the winter months, as usual, the health was good. There were no contagious diseases reported during the year. The sanitary conditions in our county are considered good.

As to hookworm disease—the doctors will, with the assistance of the State Board of Health, do everything they can to get rid of the disease.

Leon County.

F. Clifton Moor, M. D., Agent.

During the preceding year Leon county has had one slight epidemic of scarlet fever, a few sporadic cases of diphtheria, and during the latter part of the year, a rather severe epidemic of Lobar pneumonia. I herewith submit an approximate mortality table for the year. This data is gathered from the records of the undertakers in Tallahassee, whom I have had to keep a detailed account of deaths and causes of same in so far as they could:

Mortality, Leon County, 1909

Cause.	Number of Deaths. White.	Colored.
Stillbirths	6	8
Unknown (infants)		4
Typhoid fever	2	3
Tuberculosis	2	15
Septicaemia		2
Injuries	6	3
Heart disease	2	4
Pneumonia	2	4
Accidental poisoning	1	1
Senility	4	9
Apoplexy	1	2
Acute indigestion	1	1
Bright's disease	1	4
Diabetes	1	
Cancer	1	
Scarlet fever	1	
Erysipelas	1	
Malaria		2
Unknown, not reported	2	8
Totals	34	70
Total deaths		104

As stated in previous reports, hookworm disease is not very prevalent except in certain sections of the southern and western parts of the county. The public in the communities most affected, seem to be getting more information on the subject, and as a result more cases are being treated each year. Between forty and fifty cases have been treated in the preceding twelve months.

During the early summer there was a mild epidemic of variola, and Dr. Young, of the State Health Service, was called in at that time. He and I vaccinated about forty whites in town and some colored people in the country. The disease was very mild in character, without mortality or any serious results except in two old negroes.

Levy County.

R. T. Walker, M. D., Agent.

As the agent of the State Board of Health for Levy county, I desire to make the following report:

The health conditions of our county during the year 1909 were about normal; that is, the amount of sickness was about the same that

it had been for some years. Malarial troubles prevailed in some sections of the county, and there were some serious cases of typhoid fever. An epidemic of whooping cough also occurred during the latter part of the summer and fall.

There has been some tuberculosis in the county, but it does not prevail to any great extent. Nothing special is being done in the county for the prevention or eradication of this disease.

Hookworm disease prevails to a very large extent over the county, both among the children and adults; but of course, more among the children. Some few cases have been successfully treated, but only a few. It is difficult to get the people to appreciate the seriousness of the trouble and the importance of treatment. They need teaching and information along this line. A few lectures with stereopticon views might open the eyes of some of the people and put them to thinking.

Madison County.

L. C. Ruter, M. D., Agent.

During the year 1909 health conditions in Madison county have been about as follows: Three cases of tuberculosis have been reported. Twenty cases of hookworm disease have been treated, all cured successfully. During the early part of the year there were quite a number of cases of typhoid fever, and we still have a few cases in the country. There have been no other communicable diseases reported. The hookworm cases were all given the thymol treatment.

The sanitary conditions in the county are not all that could be desired.

Manatee County.

H. Baer, M. D., Agent.

Manatee county has had an unusually healthy year, having had no epidemics of a serious nature to contend with. Just at present there are quite a number of cases of *follicular conjunctivitis* in the schools, and the disease is spreading as the parents of the children cannot be induced to attend to it.

There have been a larger number of deaths from tuberculosis in the county than usual, though all save one were outside cases which had come here with the hope of improvement. The case which originated here was that of a young married woman who moved into a house recently vacated by the death of a tubercular patient, when no fumi-

gating or cleaning of any kind was done. Her death occurred in less than a year thereafter.

The city of Bradentown has an anti-spitting law, but this is not enforced on account of the indifference of our people. Our sanitary regulations cannot be carried out, especially as regards the disinfection of houses wherein tuberculous persons have lived and died.

Hookworm disease is of course present throughout the county, but practically nothing is being done to eradicate it, as those needing the treatment cannot be made to see the importance of it.

Nassau County.

D. G. Humphreys, M. D., Agent.

I have the honor to submit my annual report for 1909. The health of Nassau county has been even better than last year. The prevailing fevers have been mild in character. Malarial fevers have been confined to the lower sections of the county, owing to the long drought and the almost entire absence of mosquitoes.

There have been only a few cases of typhoid fever and nearly all of these could be traced to outside infection. Artesian or deep wells are becoming more frequent each year. Our farmers are waking up to the necessity of good water. In Fernandina typhoid fever has been almost entirely confined to the colored race living outside of the sewerage system and city water supply.

Tuberculosis, as stated in my last year's report, is almost entirely confined to the colored people, but a decided decrease is shown in this disease as compared with last year. This race is at last waking up to the fact that tuberculosis is communicable and a dangerous disease, and yearly are becoming more careful in isolation and sanitation.

Not a case of smallpox was reported this year. We have almost forgotten that this troublesome disease exists.

Only three cases of diphtheria have been reported. All were successfully treated with antitoxin. One case of scarlet fever was reported. This was a mild case and was contracted in another county.

The physicians and people of Nassau county are waking up to the fact that the hookworm is at work among us. Over twenty-five cases (thanks to the State Bacteriological Laboratory) have been recognized and treated this year.

One case of pellagra has come under my observation. This case is still under treatment and is seemingly improving. Our physicians are reaching out for all possible knowledge on this dreaded disease.

Fernandina's sanitary condition is good and it is hoped to perfect her sewerage system this year, and with our good water supply, we are looking forward to a healthy year.

I would respectfully state that our County Commissioners now have the site ready for the contemplated isolation hospital.

Orange County.

W. Kilmer, M. D., Agent.

I am pleased to report that of contagious diseases during the past year in Orange county there was but one case, that being scarlet fever which developed on the railroad in transit from Jacksonville. The car was fumigated, the child taken to the hospital, segregated, and with proper treatment, was soon out of danger.

With regard to tuberculosis—our people antagonize every effort to make this a tuberculosis center. No one is inclined to receive them in their homes.

Hookworm disease prevails here to some extent, but not sufficient to cause any alarm. With thymol a specific such as quinine is for malaria, we have no fears from that source.

Putnam County.

E. W. Warren, M. D., Agent.

In reporting the health conditions of the county during the year just past I am glad to say that of the severer types of illness we have had very little. There has been less typhoid fever than in any year during the past five that I have been in the county. The suffering from tuberculosis has as usual been very slight. No deaths from it have occurred in my own practice and only a very few in the combined practices of all the physicians in the county. On the other hand a few have come from the far northern States seeking relief from consumption and have been greatly benefited.

Beginning about June and continuing till October, an epidemic of fever, mild as a rule, prevailed in the city of Palatka especially, and to a certain extent throughout the entire county. It was variously diagnosed as malaria, dengue, etc. It was mild in character with an occasional case of severe pains and in a few instances was followed by desquamation. A lot of excitement was created, but as is usual in such cases, there was "more smoke than fire." No deaths were caused by the disorder.

The public is better acquainted with hookworm disease in this county now than ever before. It is not unusual now for a man to bring his children in and have them all examined. Two deaths occurred in a colored family some time ago from the effects of hookworms and that concentrated attention on the malady more than before. The disease prevails here to a considerable extent, but I do not think it is as universal as in some sections of the State, judging from the estimates I see from other physicians. In many cases where a child looked like a hookworm subject I have examined with negative results. In the negative cases I have in several instances sent specimens to the laboratory of the State Board of Health and had my diagnosis confirmed. Not all the pale, anemic children have hookworms, as I have found by examination.

I believe there has been slightly more malarial hemoglobinuric cases in this vicinity during 1909 than any year before.

Sumter County.

S. C. Wood, M. D., Agent.

In making my annual report as to the health and sanitary conditions existing in Sumter county during 1909, it affords me great pleasure to say that we have had but little sickness of a serious nature. In some localities a few cases of typhoid fever of a mild type have been reported. Owing to the unusual amount of rain during the summer months and the consequent increase in the number of mosquitoes, we have had more malarial cases than we had in the years 1906 and 1907 for the same period, though most cases reported were of the Tertian type.

No cases of yellow fever, smallpox, diphtheria or rabies have been reported. There is but little increase in the number of cases of tuberculosis, due to sanitary precautions and the fact that but few cases migrate to our county.

Up to July, 1909, but little progress had been made in the eradication of the hookworm except that done by myself. The literature sent out by the State Board of Health in the latter part of the year has done a vast amount of good, both to the profession and the laity, and at last we are awake to the fact that at least sixty per cent of our children are infected with *Uncinaria Americana*. It was my pleasure to attend the first annual conference on the hookworm disease, held in Atlanta, January 18th and 19th, 1910, which was both beneficial and interesting to me. It is gratifying to me to state, in passing, that the

cases of hookworm disease treated in Sumter county under the direction of the State Board of Health were in exact accord with the treatment for all cases suggested by the conference in Atlanta. The problem confronting both county and State is the prevention of soil pollution. Once we have the remedy it will only be a few years until we will reduce the percentage of infection to a minimum.

The sanitary conditions in the various localities of the county are far better than ever before. Houses are being screened, ponds drained and surface wells eliminated.

I want to express my sincere thanks to Doctors Porter, Byrd and Lindeman for courtesies extended to me during the year just closed.

Walton County.

C. B. McKinnon, M. D., Agent.

The year 1909 was remarkable for its good health throughout the entire county. We had no epidemics of contagious or infectious diseases. We have had during the year quite a number of deaths from tuberculosis aming the negro population.

I have treated many cases of *uncinariasis* during the year. Effort has been made by your agent to interest all the physicians of the county in the treatment of hookworm disease. Some of them are doing good work along this line. Most of them prescribe treatment where hookworms are suspected. They give thymol and watch for the worms to confirm diagnosis, and continue the treatment until the patients cease to pass the worms. In this way many of the anemic, dirt-eating children of the country are converted into rosy, robust boys and girls. There are a large percentage of adults who suffer from the infection.

I have interested many of the teachers of the country schools in the work by asking them to notice for pupils whom they think are suffering from hookworms, and get them to suggest to the parents that they have them examined by a physician and treated for the disease. I know many who have come to me in this way and are treated and go back to school so much improved, and talk it over with other pupils who are suffering from the disease, and they in turn apply for treatment.

I have advised in all homes in the country who have not privies, that one should be built, and lime or some disinfectant used; for many homes in the country use the lots and near-by woods for privies and take no precautions to prevent the hatching of the eggs of the hookworm.

I have one case of pellagra under treatment, which is considered a typical case.

A young lady, twenty-two years of age, who has been suffering with the disease for four or five months. She is of good family and a school teacher. It was while teaching in a school in a distant part of the county that the disease was first noticed. The first symptom observed was her mental condition. The family with whom she boarded would find her crying at times. She could not sleep and was very nervous. Thinking she was homesick, they wrote to her parents of her condition and sent her home. Shortly after she came home they began to notice that her mind was affected, which gradually grew worse. I was called to see her and found her suffering from what I thought at the time was a nervous break-down. I began treatment and told them I thought she would probably get well in a short time. She was visited again in a few days and found no better; suffering with a very sore mouth and tongue; no appetite, bowels loose, crying, very nervous, and had slept but little, mental condition worse. She remained in this condition for two or three weeks, except gradually growing weaker all the time in body and mind, and had to be watched to be kept from wandering from home. About sixty days after her return home the skin of the face and back of neck began to turn a brownish color, and in a short time an eruption appeared on the face and back of neck, which looked and felt thick. In a few days the same characteristic color and eruption appeared on the back of hands and fingers extending above wrists, which remained for three or four weeks when it began to peel off; on one hand almost the whole epidermis flaked off in one piece. Shortly after this the eruption on face and neck began to disappear, and at this time her mental and physical condition is much improved and indications are now she will probably recover.

This is the second case of pellagra observed in this county. The other case occurred about two years ago and was treated by Dr. Landrum and myself. The case was a woman and recovered after four or five months' illness and has had no return of the disease at this time.

REPORTS FROM CITY BOARDS OF HEALTH

JACKSONVILLE, FLA.

Dr. C. E. Terry, City Health Officer.

Vital Statistics for 1909

BIRTHS AND DEATHS.

Month.	Births. White. Males.	Births. White. Females.	Deaths. White. Males.	Deaths. White. Females.	Births. Colored. Males.	Births. Colored. Females.	Deaths. Colored. Males.	Deaths. Colored. Females.
January	18	11	20	10	24	22	17	23
February ...	18	16	19	14	18	10	37	17
March	22	13	25	15	19	18	34	30
April	15	12	19	13	16	16	24	22
May	14	16	17	15	19	26	36	31
June	27	17	17	13	12	14	24	25
July	23	23	31	13	22	16	27	21
August	18	19	15	15	24	23	31	29
September ..	15	21	23	10	27	30	45	31
October	21	27	13	13	27	27	39	26
November ..	15	17	23	13	28	24	29	24
December ..	20	16	23	19	19	18	40	27
Totals ..	226	208	245	163	255	244	383	306

Total white births..... 434 Deaths..... 408

Total colored births..... 499 Deaths..... 689

Grand total births..... 933 Deaths..... 1,097

Contagious Diseases, 1909—Cases and Deaths

Month.	Typhoid Fever		Diphtheria		Whooping Cough		Tuberculosis		Scarlet Fever		Measles		Smallpox	
	Cases Reported	Deaths	Cases Reported	Deaths	Cases Reported	Deaths	Cases Reported	Deaths	Cases Reported	Deaths	Cases Reported	Deaths	Cases Reported	Deaths
January ...	6	1	14	..	..	3	1	7	..	..	..	..	..	..
February ..	6	1	8	..	..	..	2	10	..	..	..	..	..	..
March	6	3	2	..	..	2	..	16	2	..	..	2	..	..
April	6	..	4	..	..	..	2	16	1	..	1	..	1	..
May	7	4	..	..	..	1	3	14	..	..	..	..	..	..
June	14	3	1	..	..	..	4	9	3	..	2	2	..	..
July	9	11	..	..	..	..	5	9	..	..	..	..	..	..
August	12	4	1	..	..	..	..	..	5	..	..	..	..	..
September	2	..	3	..	..	..	2	21	5	..	..	..	..	..
October ...	7	2	10	..	..	..	2	12	11	..	..	..	..	..
November .	4	2	14	..	..	1	..	8	20	..	..	..	1	..
December .	7	..	16	..	..	..	..	..	3	..	..	..	1	..
Totals ..	86	31	73	..	..	7	21	122	50	..	3	4	3	..

Key West, Fla.

Dr. S. D. W. Light, City Health Officer.

Births for the calendar year 1909, arranged by months, with number of whites, blacks, still-births and totals:

Month.	No. Births.	White.	Black.	Stillbirth.
January	41	26	15	9
February	44	29	15	3
March	59	42	17	.
April	43	30	13	1
May	42	34	8	5
June	53	37	16	5
July	47	32	15	4
August	61	47	14	3
September	80	55	25	4
October	61	46	15	5
November	57	40	17	2
December	76	58	18	3
Totals	664	476	188	44
Stillbirths	44			
Total live births	624			

Mortality during the calendar year 1909:

Month.	Deaths. White.	Deaths. Black.
January	14	7
February	22	18
March	14	20
April	24	16
May	24	19
June	18	18
July	20	16
August	17	11
September	22	8
October	26	6
November	15	14
December	29	11
Totals	235	164
Number of white deaths		235
Number of black deaths		164
Total deaths, exclusive of stillbirths		399

Ocala, Fla.

Dr. E. Van Hood, President City Board of Health.

Ocala, Fla., January 1, 1910.

Dr. Joseph Y. Porter, State Health Officer, Jacksonville, Fla.

Dear Doctor: At your request, this Board cheerfully gives you the following report as to health conditions in Ocala during 1909:

To judge by the death rate the general health has been satisfactory. A morbidity report would no doubt be valuable, but such a thing is not possible now.

The following cases of contagious diseases have been reported to this office: Diphtheria 1, typhoid fever 2, tuberculosis 3.

Glanders appeared in the spring among the horses and mules in Ocala, and fifty-nine animals having reacted to the mallein test, were ordered destroyed by the State Board of Health. The horses were shot and then buried. The infected stables and watering places were thoroughly disinfected and no new cases have developed.

Beginning with 1910 this Board, with the cooperation of the school officials and the Woman's Club, contemplates an educational campaign as to the prevention of disease and regular inspections of the schools will be made. Adenoids, hookworms, tuberculosis and defects of the eyes, ears and teeth will be borne in mind and will receive particular attention.

As customary, vaccination will be done when necessary and certificates given when successful.

One case of pellagra has been reported from the State convict hospital, two miles east of this city.

Our meat and milk commission is still having difficulties in its work. A new inspector is now at work (thanks to the State Board of Health for directing him to us) and conditions will in all probability improve rapidly.

This Board has forwarded to your bacteriological laboratory at Jacksonville the heads of three dogs to be examined for rabies. Two of the heads showed evidence of the disease upon examination of the brain and the persons bitten were promptly treated to prevent the development of hydrophobia. The last of these cases was treated at Ocala, the anti-rabic serum being mailed direct from the laboratory to the attending physician.

The City Board of Health of Ocala delights to mention its obligations to the State Board of Health for all manner of help in times of difficulty.

Very respectfully,

E. Van Hood,

President City Board of Health.

PENSACOLA, FLA.

The following vital statistics of the city of Pensacola, for the year 1909, have been furnished to the Escambia county agent of the State Board of Health:

BIRTHS.

White male	191	
White female	161	352
Colored male	127	
Colored female	113	240
Total births		592

DEATHS.

White male	108	
White female	66	174
Colored male	140	
Colored female	134	274
Total deaths		448

CONTAGIOUS DISEASES—(ESCAMBIA COUNTY)—NUMBER OF CASES.

Disease.	Males.	Females.	Total.	Deaths.
Scarlet fever	20	27	47	0
Diphtheria	7	9	16	0
Smallpox	8	1	9	1

DEATHS FROM CONTAGIOUS DISEASES REPORTED ONLY FROM CITY OF PENSACOLA.

	White.		Colored.	
Disease.	Male.	Female.	Male.	Female.
Tuberculosis	10	8	11	8
Typhoid fever	9	3	5	5

Estimated population of the city of Pensacola..... 27,500

TAMPA, FLA.

Dr. W. P. Lawrence, City Health Officer.

1909.

Births	538
Deaths	544

BIRTHS AND DEATH OF THE FOUR PRINCIPAL CITIES OF THE STATE AS REPORTED BY THEIR RESPECTIVE CITY BOARDS OF HEALTH. POPULATION ESTIMATED BY EACH CITY.

City.	Estimated Population.	No. of Deaths.	Death Rate.	No. of Births.	Birth Rate.
Jacksonville	65,000	1,097	16.87	933	14.35
Key West	23,000	399	17.34	664	28.86
Pensacola	27,500	448	16.29	592	21.52
Tampa	54,000	544	10.07	538	9.96
Total population	169,500				
Total deaths		2,488			
Average death rate			14.67		
Total births				2,727	
Average birth rate					16.08

A SPECIAL REPORT UPON THE PREVALENCE OF MEASLES IN TAMPA, FLA., IN 1909

(By Dr. Chas. W. Bartlett, Agent State Board of Health.)

TAMPA, FLA., January 20, 1910.

Dr. Joseph Y. Porter, State Health Officer, Jacksonville, Fla.

DEAR DOCTOR: Your letter of the 17th instant, with enclosure, received. The information that is offered in the enclosure is exceedingly exaggerated, but nevertheless there is a certain amount of truth in the report.

I have, since my return from Cuba on the sixth of December, taken into consideration the condition of affairs existing here due to measles, but cannot see my way clear, and due to many considerations over which we have no control, I do not see that anything can be done in the premises. Of course, such a statement without explanation might be misunderstood, and therefore, I shall make this special report on measles, with certain facts therein for your consideration. I shall begin by stating that if I am to be governed by the official number of cases reported, it is found that in October there was one case of measles, with one death; in November there was one case of measles, with no deaths, and in December there were ten cases, with only two deaths, which does not seem at all alarming, as it probably does not differ from other years. But the truth of the matter is, I find by the very same vital statistics of December that there was a total number of deaths of 72 in that month, which is nearly double those for the same month in 1908.

I further find that out of the ten cases of measles reported for the same month, nearly every one of the certificates bears the name of the same physician, which goes to prove that he is the only man that has seen measles or he is the only one that is doing his duty or that we have not an epidemic of measles. Paraphrasing a well known photographic concern's advertisement, I might say, "If it is not an epidemic, it is not measles." Therefore, if we have measles, we have an epidemic, and in my opinion one sufficiently serious for due consideration.

If we look into the vital statistics of the city of Tampa for the month of December, we find that the increased death rate is among children. That is, of the 72 cases reported, no less than 35 are under one year of age; and looking further into it I find that of those 35, three are due to measles, twelve due to pneumonia, three to bronchial pneumonia, one to ileo colitis, two to cholera infantum, etc. Now, we know perfectly well that the twelve cases of pneumonia are simply reported by too fine a diagnostician; at least, in my opinion, the diagnosis of pneumonia under one year of age without a *post mortem* is somewhat problematical. The two cases of bronchial pneumonia should be looked upon with doubt, bronchial pneumonia hardly ever being a primary disease.

Therefore, I believe that out of the 35 cases the larger part are due directly to measles or one of its complications, and if such is the truth we have had no less than 20 or 25 deaths within this month from a contagious disease the name of which is measles, but reported under another name. What would be the state of affairs if such a number of deaths was reported from smallpox or yellow fever, for example? The crying demand for protection would be great. Of course, all this is from my viewpoint as a health officer; but the people and the physicians themselves give such little importance to measles that we cannot prove that such a condition of affairs does exist.

As you can see by my previous statement of the official records, we certainly would not be justified in taking any drastic steps to control the epidemic from only ten cases reported, and the most that can be done is to use the present conditions for instruction to the physicians and the public; to the one that they may give full reports so that the health officers may have statistics on which to base their work and justify their actions; and to the other that they may know how to protect themselves from a disease which might produce such a mortality.

Practicing within the city and seeing myself a good many cases of measles, and from conversation with other physicians, I know that the condition of affairs is nearer to my statement to you than it is to the vital statistics.

The explanation of why nothing can be done is as follows: We have not a sufficient number of cases reported to justify any measures; the general disregard that the public has for measles as a contagious disease makes the handling of an epidemic by health officers difficult

under any circumstances. It is a well known fact among physicians that a large percentage of children suffering from measles have no physician called to attend them unless the cases are complicated. I will find and believe, that if I issue an order requiring school teachers to demand certificates from physicians in charge of cases of measles before the children are allowed to return to school, as we do in cases of scarlet fever and diphtheria, that it would be useless and simply a burden on those having physicians, and create a false sense of security in those sending their children to school, and it would not prevent mild cases of measles that had no physician, from attending school. The closing of the schools would also be useless, for the following reasons: We have cheap shows every evening, moving pictures, etc., for five cents, where a large number of children congregate, where the hygienic conditions are probably a great deal worse than in the schools, and where the children would go a great deal more if the schools were closed. Then we have the Sunday schools, churches, street cars, the streets themselves, and back yards and other places where the children mix with each other and play. Then, furthermore, we have for our consideration that those living in good homes and with good surroundings have no mortality from this disease, and therefore, they would object to the deprivation of their children from attending school. The mortality is amongst a class of people who live in rented houses in the two sections, Ybor City and West Tampa, as can be seen from the foreign names on the death certificates. And what do we find the conditions there to be? That while it is true that no house has been or is being built in Tampa without first obtaining the approval and permission of the chief of the fire department, no one has ever thought of submitting plans or requiring the approval of the Board of Health or city physician of any building that is put up for human beings to live in. This is stated to prove to you that segregation or isolation of cases in houses built like our tenement houses are, is impossible. They are built with the rooms following each other, with a door between each and no other way of communicating from one room to another. If you look into the houses, you find that there is no provision of any kind made for the heating and ventilating of the buildings. In the majority of these houses the upper sash of the windows cannot be opened. In the majority of the houses there are no flues nor fireplaces nor other means of heating the buildings. The surroundings are made especially, it seems, as an incubator for complicating measles. The temperature on the inside of these buildings is practically the same as on the outside, with the exception that when it is warm outside it is hot inside. The bathtub is a luxury which only reaches these tenants by hearsay. Living under such conditions it is only surprising that the mortality should not be more. Due to the fact that often a family of eight use for their living quarters one or two rooms, you can judge of the sanitary conditions that we have to deal with.

Now, Doctor, I think I have shown you that measures which were not drastic would be useless. Drastic measures by us, I think, would

not be justified under the present conditions. For example, the quarantining of all the houses could not possibly be done without employing a large number of sanitary officers to keep the houses under observation. To obtain a true knowledge of the number of cases, we would be obliged to employ a sufficient number of sanitary officers for day to day inspection. The same men could be used for the purpose of fumigating from day to day the houses reporting measles. For the isolation and segregation of cases, we need a place larger than the Tampa Bay Hotel.

All this I submit to you for consideration.

Very respectfully,

CHAS. WM. BARTLETT,
Agent State Board of Health.

THE CONFERENCE FOR THE ERADICATION OF THE HOOKWORM DISEASE

(Joint report of Dr. Joseph Y. Porter, State Health Officer, and Dr. Hiram Byrd, Assistant State Health Officer, Representing the State Board of Health at that Conference.)

The "Hookworm Conference," held in Atlanta, January 18th and 19th, 1910, has passed into history. But just its exact place in history, as estimated by future generations, we should hesitate to say. Possibly it accomplished the object for which it was called—another point we should hesitate to pass upon. If a chance expression picked up here and there is an index of popular feeling, many who attended were disappointed. Not that the program was not a good one, and the papers rendered excellent—of their kind—but untimely. But, as before indicated, it was a great disappointment to many State Health Officers to go to Atlanta to hear that hookworms prevail in the South, that they cause anemia, that when their eggs are found in the stools of anemic persons it is a proof that they have hookworms, and that thymol will expel them. They had heard all this years ago (it seems now),—had read it in medical journals—had read it in newspapers—had seen some of the sufferers—had seen the eggs—had seen the worms—had given the thymol—had seen the patients recover—had published information on it and sent it out in their respective States—had even induced legislatures to make appropriations to combat the evil; we say, with all this, it is not surprising that they should be and were disappointed to be invited up there to attend a kindergarten class in which they themselves, many of them at least, might play the role of expert teachers.

Just who is responsible for this, we should not like to say. The invitation stated that it was under the auspices of the Atlanta Chamber of Commerce and the Georgia State Board of Health. The object of the meeting, as stated in a letter from the Secretary of the Atlanta Chamber of Commerce, was to devise "ways and means to eradicate the hookworm disease." And, furthermore, the invitation stated that "the program will include a number of addresses the first day and a general discussion the second day." From this the several organizations and individuals receiving invitations were made to understand that the conference would take up the economic side of the question—would discuss ways and means of meeting a great problem on a broad scale and in a practical way. This made all the State health authorities in the South all the more anxious to attend, for they realize that the obstacles in the way of hookworm eradication are many and great, if indeed they are not insurmountable. And they would hail with delight an opportunity to confer with other men who have met the problem face to face and are daily, hourly, grappling with it. And when this meeting was announced to be in Atlanta, it is safe to say that every State Board of Health in the South was pleased. Every Board was represented there.

And it is equally safe to say that every Board was disappointed at the turn the conference took. The papers were good, of their kind—but of the wrong kind. The general discussion which was promised for the second day was not reached until twelve o'clock, and at that time it was pre-arranged that the State Health Officers should be gathered together in a private conference on ways and means of hookworm eradication. So that the general discussion was in that way denied them. To illustrate: The State Board of Health of North Carolina has done a good deal of educative work on hookworms. If the State Health Officer of North Carolina had a chance to open his mouth in the conference except to yawn, we are not aware of it. And that does not apply to North Carolina alone.

The program was, in detail, as follows:

Southern Health Conference Under Auspices
Atlanta Chamber of Commerce and Georgia State Board of Health,
Atlanta, Georgia, January 18 and 19, 1910.

Tuesday, January 18, 1910.—Opening Session.

10 a. m.—Kimball ball room.

Brief opening remarks by President of the Atlanta Chamber of Commerce, Mr. F. J. Paxon.

Addresses on the Hookworm Disease as follows:

1. Dr. Charles Wardell Stiles, Washington, D. C.: "History and Zoological Aspect of the Hookworm Disease."
2. Hon. E. E. Rittenhouse, President Provident Savings Life Assurance Society, New York City: "Relation of Disease Prevention to Life Insurance."
3. Dr. Newton Evans, Nashville, Tenn.: "Pathology."
4. Dr. George Dock, Tulane University, New Orleans, La.: "Symptomology."

1 p. m.—Adjournment for lunch.

2:30 p.m.—

5. Dr. E. D. Bondurant, Mobile, Ala.: "Nervous Aspects of the Clinical Manifestations."
6. Dr. H. F. Harris, Secretary Georgia State Board of Health, Atlanta, Ga.: "Treatment."
7. Dr. W. M. Brumby, President Texas State Board of Health: "The Campaign of Education in Texas Against Hookworm Disease."
8. Dr. W. W. Landrum, Louisville, Ky.: "What the Churches Can Do For Health," with special reference to this disease.

Evening Session.

8 p. m.—Public meeting.

Dr. R. M. Cunningham, Ensley, Ala.: "The Preservation of Man."

Dr. Chas. Wardell Stiles, Washington, D. C.: Address illustrated by stereopticon views.

Wednesday, January 19.

9:30 a. m.—General Discussion from 9:30 to 12 o'clock by members of the conference, including:

Dr. F. W. Schnause, Cecil, Ga.
Dr. M. M. Head, Zebulon, Ga.
Dr. A. G. Fort, Lumpkin, Ga.
Dr. W. C. Vickers, Abbeville, Ala.
Dr. H. G. Perry, Greensboro, Ala.
Dr. J. H. Florence, Houston, Texas,
and others.

12 o'clock—Permanent organization.

1 o'clock.—Adjournment for lunch.

1:30 p. m.—Reception at the Piedmont Driving Club.

5 p. m.—Final adjournment.

There were only two or three items brought out that were not matters of common information to those reasonably well posted on hookworm literature. Dr. Harris emphasized the fact that allowing thymol to remain in the intestine some hours enhanced its efficiency as an anthelmintic. Dr. Evans reported two cases that had only one worm each. (This we were left to assume was a female.) It gives rise to the question: Does the female hookworm deposit eggs parthenogenetically? And if so, would these parthenogenetic eggs hatch? Dr. Schnause, of Cecil, Ga., reported that he had tried to infect himself by swallowing hookworm embryo in a capsule, but without avail. The blunt, original manner in which he reported 847 cases treated in four years, was, to say the least, entertaining. He gave one patient twenty-five cents' worth of thymol and got back five hundred worms and ten dollars. He found that thymol in capsules would sometimes pass through the patient like "blue whistlers." He made the audience laugh from beginning to end of his paper, and for some hours afterwards an individual here and there could be seen to burst out in laughter all by himself, the cause of which those who heard the paper readily divined.

The conference appointed a Committee on Organization the first day. That committee reported the morning of the second day, and had a plan of organization mapped out, which with certain changes, was adopted.

The need for such an organization was doubted by some. There is the American Public Health Association, to membership in which any person who is interested in the public health is eligible. There is the Conference of State and Provincial Boards of Health of North America in which all State and Provincial organizations can get together. Then there are a thousand other health organizations in the country, of one kind and another—so many that if we were to join all that appeal to us and devote a reasonable time to each, there would be little time left to chew our food; but the organization was effected, at any rate, and now it remains to see whether it will survive or perish. If there is a real need for it, it is here to stay; if not, its days are already numbered.

But the conference cannot be said to have been a failure, viewed from any reasonable angle. The privilege of intercommunication among the several health authorities of the country upon a subject of such vast and far-reaching importance, cannot be devoid of good, though it is somewhat like the Kentuckian said of the whiskey: All whiskey is good—some is better.

LIST OF MOSQUITOES FOUND IN FLORIDA

(Dr. Hiram Byrd, Assistant State Health Officer.)

Genus capitalized; species subordinate to genus; synonyms of species indented.

Culex, genus founded by Linnaeus, 1758,
- pipiens, Linnaeus, 1758.
 - pungens, Wiedemann, 1828.
 - fatigans, Wiedemann, 1828.
 - agilis, Bigot.
 - alpinus, Linnaeus, 1767.
 - ciliaris, Linnaeus, 1767.
 - communis, DeGeer.
 - rufus, Meigen, 1818.
 - phytophagus, Ficalbil, 1817.
 - domesticus, Germer, 1817.
 - pallipes, Meigen, 1838.
 - macleayi, Skuse, 1896.
 - skussi, Giles, 1899.
 - anxifer, de Grande et de Charmoy, 1900.
 - ? boscii, Desvoidy.
 - ? cubensis, Bigot.
 - ? ferruginosus, Wiedemann, (Anopheles).
 - ? quinquefasciatus, Wiedemann.
 - ? territans, Walker.
- nigripes, Zetterstedt.
 - impiger, Walker.
 - implacabilis, Walker.
 - incidens, Thomasen.
 - ? quinquefasciatus, Say.
- sylvestris, Theobald.
- consobrinus, Desvoidy.
 - impatiens, Walker.
 - inornatus, Williston.
 - pinguis, Walker.
 - puntor, Kirby.
 - ? annulimanus, Wulp.
 - ? testaceus, Wulp.
- serratus, Theobald.
- triseriatus, Say.
- scholasticus, Theobald.
- perturbans, Walker.

- confirmatus, Arribalzaga.
 - ocilerotatus confirmatus, Arribalzaga.
- solicitans, Walker.
- taeniorhyncus, Wiedemann.
 - damnosus, Say.
 - solicitans, Walker.
 - confinis, Arribalazaga.
- similis, Theobald.
- tormentor, Dyar & Knab.

Janthinosoma, genus founded by Arribalazaga, Synonym Conchyliastes, so-called by Theobald.
- musica, Say.
 - postica, Wiedemann.
 - sayi, Dyar & Knab.
 - culex mexicanus, Bellardi.

Psorophora, genus founded by Desvoidy.
- Ciliata, Fabricius.
 - conterrens, Walker.
 - molestus, Wiedemann.
 - perterrens, Walker.
 - rubidus, Desvoidy.

Melanoconion, genus founded by Theobald.
- astratus, Theobald.

Wyeomyia, genus founded by Theobald.
- smithii, Coquillett.

Megarhinus, genus founded by Desvoidy.
- rutilus, Coq.

Culiseta, genus founded by Felt.
- consobrinus, Desvoidy.
 - impatiens, Walker.
 - inornatus, Will.
 - magnipennis, Felt.
 - pinguis, Walker.

Grabhamia, genus founded by Theobald, synonym Feltidia, Dyar.
- jamaicensis, Theobald.
 - confinis.

Uranotaenia, genus founded by Arribalazaga.
- sappharina.

Stegomyia, genus founded by Theobald.
- calopus, Meigen.
 - fasciata, Fabricius.

Culex taeniatus, Wiedemann.
C. calopus, Meigen.
C. frater, Desvoidy.
C. mosquito, Desvoidy.
C. exagitans, Walker.
C. inexorabilis, Walker.
C. formosus, Walker.
C. zonatipes, Walker.
C. excitans, Walker.
C. viridifrons, Walker.
C. impatibilis, Walker.
C. bancroftii, Skuse.
C. mosquito, Arribalazaga.
C. elegans, Ficalbil.
C. rossii, Giles.
C. fasciatus.
Anopheles, genus founded by Meigen.
crucians, Wiedemann.
pictus, Loew.
? ferruginosus, Wied.
argyritarsis, Desvoidy.
maculipennis,
quadrimaculatus, Say.
annulimanus, Wiedmann.
bifurcatus, Meigen.
punctipennis, Say.
hiemalis, Fitch.
pseudo-punctipennis, Theob.
An unrecognized species.
Aedes,
floridense, D. & K.
tormentor, D. & K.

A COMPARATIVE STATEMENT OF THE WORK OF THE BACTERIOLOGICAL LABORATORY SINCE ITS ESTABLISHMENT IN 1903

Character of Specimens.	Total Number of Examination Each Year. 1903	1904	1905	1906	1907	1908	1909	Totals
Malaria	115	210	348	193	251	485	1,675	3,277
Typhoid	244	645	819	624	1,081	971	1,320	5,704
Tuberculosis	280	564	790	842	775	895	1,007	5,153
Diphtheria	216	319	265	365	415	547	444	2,571
Gonorrhea	53	128	171	197	180	251	340	1,320
Urine	34	118	358	378	219	297	212	1,616
Water	10	52	41	39	24	...	7	173
Rabies	...	...	...	10	8	36	68	122
Intestinal Parasites:								
Uncinaria	...	...	...	...	...	278	668	946
Tapeworms	...	...	...	...	...	19	11	30
Miscellaneous	44	*52	*104	*154	*249	227	10	590
Totals each year	996	2,088	†2,896	2,802	3,202	4,006	5,762	21,752

*Includes Uncinaria for that year.
†1905 figures are greater than 1906 owing to increased examinations at Pensacola during yellow fever epidemic.

STATEMENT SHOWING ANNUAL COST *of* MAINTENANCE *of* THE BACTERIOLOGICAL LABORATORY AT JACKSONVILLE, SINCE ITS ESTABLISHMENT IN 1903

Year.	Salaries.	Equipment.	Total Each Year.
1903	$1,800.00	$1,727.28	$3,527.28
1904	2,566.56	1,111.12	3,677.68
1905	3,162.75	857.04	4,019.79
1906	2,929.78	1,128.59	4,058.37
1907	2,899.17	1,166.46	4,065.63
1908	3,763.43	1,637.36	5,400.79
1909	3,581.63	1,669.79	5,251.42
Totals	$20,703.32	$9,297.64	$30,000.96

TEXT MAY BE LOST DUE TO TIGHT BINDING

HYDROPHOBIA—Treatment Administered for its Prevention, by the State Board of Health, During 1908

Case No.	Sex	Age	Residence	INFECTION				Animal	Evidence of Infection		TREATMENT			
				Bite	Date	Location	Extent		Clinical	Microscopical	Prepared at	Administered at	Begun	Ended
1	Male	19 Years	Jacksonville	Yes	Feb. 23, '08	Finger	Penetrating	Dog	Rabies	Rabies	New York	Jacksonv lle	Mar. 4	April 1
2	"	5 "	"	"	Mar. 29, '08	Face	"	"		"	" "	"	" 31	" 27
3	Female	40 "	"	"	Mar. 30, '08	Finger	"	"	Rabies	"	" "	"	April 4	" 25
4	"	5 "	"	"	April 21, '08	Wrist	"	"		Indefinite	" "	"	" 24	May 15
5	"	29 "	"	"	" 30, '08	Hand	Slight	"	Rabies	Rabies	" "	"	May 6	" 28
6	"	18 "	"	"	" 30, '08	"	"	"	"	"	" "	"	" 6	" 28
7	Male	22 "	"	"	" 30, '08	"	"	"	"	"	" "	"	" 6	" 28
8	"	8 "	"	"	" 30, '08	"	"	"	"	"	" "	"	" 6	" 29
9	"	8 "	"	"	" 30, '08	"	"	"	"	"	" "	"	" 6	" 29
10	"	5 "	Hague	"	May 7, '08	Leg	"	"	"	"	" "	"	" 12	June 2
11	Female	5 "	Live Oak	"	" 11, '08	Head	Severe	"	"		" "	"	" 12	" 10
12	Male	46 "	Gainesville	"	April 19, '08	Thumb	Slight	"	"		" "	"	" 20	" 19
13	"	6 "	"	"	" 28, '08	Hand and thigh	"	"	"		" "	"	" 20	" 19
14	Female	48 "	Jacksonville	"	May 18, '08	Hand	"	"	"		" "	"	" 21	" 11
15	Male	69 "	Welborn	"	" 13, '08	"	Penetrating	"	"		" "	"	" 21	" 11
16	"	45 "	Jacksonville	No	" 22, '08	Exposed to saliva		Cow	"		" "	"	" 27	" 18
17	"	18 "	Ocala	Yes	Dec. 3, '08	Leg	Slight	Dog		Rabies	Atlanta	"	Dec. 7	Dec. 28
18	"	27 "	"	"	" 3, '08	"	"	"		"	"	"	" 7	" 28
19	"	10 "	"	"	" 3, '08	"	"	"					" 8	" 29

Case No.	Sex	Age	Residence	INFECTION				Animal	Evidence of Infection		TREATMENT			
				Bite	Date	Location	Extent		Clinical	Microscopical	Prepared at	Administered at	Begun	Ended
20*	Female		Ocala	No	Jan. 8-15	Exposed to Saliva		Husband			Atlanta, Ga.	Jacksonville	Jan. 21	Feb. 11
21	Male	6 yrs.	"	Yes	June 25, '08	Leg	Penetrating	Dog	Rabies		"	"	" 21	" 11
22	"	11 "	"	Yes	" "	Leg	"	"	"		"	"	" 21	" 11
23	"	23 "	Lake City	Yes	Jan. 20. '09	Finger	Slight	"	"		"	"	" 23	" 13
24	"	11 "	Ocala	Yes	June 25, '08	Leg		"	"		"	"	" 25	" 15
25	Female	23 "	Titusville	Yes	Feb. 18, '09	Forearm	Slight	"	"	Rabies	"	"	Feb. 26	Mar. 19
26	Male	25 "	"	Yes	" "	Hands	Severe	"	"	"	"	"	" 26	" 19
27	"	5 "	Jacksonville	Yes	March —	Hands	"	"	"	"	"	"	Mar. 9	" 30
28	"	37 "	"	Yes	" 25	Hand	Slight	"	"	"	"	"	April 3	April 24
29	Female	34 "	"	Yes	" 25	Left Thumb	"	"	"	"	"	"	" 3	" 24
30	Male	12 "	"	Yes	" 24?	Hand	"	"	"	"	"	"	" 3	" 24
31	"	8 "	"	Yes	" "	Hand	"	"	"	"	"	"	" 3	" 24
32	"	7 "	"	Yes	" "	Left Arm	"	"	"	"	"	"	" 3	" 24
33	Female	6 "	"	Yes	" "	Little Finger	"	"	"	"	"	"	" 7	" 28
34	Male	57 "	"	No	?	Exposed to Saliva		Calf	Indefinite	"	"	"	" 28	May 23
35	"	45 "	Dunnellon	Yes	April 25	Leg	Severe	Dog	"	"	"	"	" 30	" 20
36		20 Mos.	White Springs	Yes	" " ?	Fingers	Slight	Cat	Rabies	Negative ‡	"	"	May 26	June 18
37	Male	6 yrs.	Jacksonville	Yes	May 22	Right Leg	"	Dog	"	Rabies	Marietta, Pa.	"	" 27	" 17
38	"	8 "	"	No	?	Exposed to Saliva		"	"	"	"	"	" 30	" 22
39	Female	6 "	Titusville	Yes	May 25 ?	Left Palm	Penetrating	"	"	"	"	Melbourne and Baltimore	June 3	" 21
40	Male	34 "	Melbourne	Yes	" 28	Right Leg	Slight	"	"	"	"	Jacksonville	" 3	" 24
41	Female	7 "	Jacksonville	Yes	June 1	Left Wrist	"	Cat	Indefinite	"	"	"	" 12	" 30
42	Male	10 "	Titusville	Yes	" 8	Left Hand	"	Dog	Rabies	"	"	"	" 12	July 1
43	Female	29 "	"	Yes	" 8	Right Hand	Penetrating	"	Indefinite	"	"	Carrabelle	" 14	" 3
44**	Male	24 "	Carrabelle	Yes	" 8	Hands	Slight	"	Rabies	"	"	"	" 14	" 3
45	"	14 "	"	Yes	" 8	Left Middle Finger	"	"	"	"	"	"	" 14	" 2
46	"	9 "	"	Yes	" 9	Right Foot	"	"	"	"	"	"	" 14	" 7
47	"	7 "	"	Yes	" 9	Left Leg	"	"	"	"	"	Jacksonville and Tampa	" 19	" 10
48	"	36 "	Tampa	Yes	" 14	Left Hand	Penetrating	"	"	"	"	Jacksonville and Chipley	" 24	" 15
49	"	5 "	Chipley	Yes	" 19	Left Arm	"	"	Indefinite	"	"	Plant City	July 10	" 31
50	"	39 "	Plant City	Yes	" 28	Leg	Slight	"	Rabies	"	"	Tampa	" 4	" 24
51	"	6yr. 7mo.	Tampa	Yes	" 28	Back	Severe	"	"	"	"	Jacksonville	Sept. 2	Sept. 18
52	"	3 yrs.	Jacksonville	Yes	Aug. 24	Cheek, Nose, Lip	"	"	"		"	Lloyd	Aug. 15	" 3
53	"	6 "	Lloyd	Yes	" 10	Thumb	Penetrating	"	"		"	Lake City	Sept. 1	" 22
54	Female	5 "	Lake City	Yes	" 11	Arm	Slight	"	"		"	High Springs	" 3	" 24
55	"	7 "	High Springs	Yes	?	Finger	?	Cat	"		"	" "	" 3	" 21
56	Male	2 "	" "	Yes	Aug. 1	Hand	?	"	"		"	" "	" 3	" 24
57	Female	4 "	" "	Yes	" 1	Right Leg	?	"	"					
58	Male	8 "	Chipley	Yes	Sept. 26	Arm and Leg	Slight	Dog	Indefinite	Rabies	"	Chipley	Oct. 2	Oct. 23
59	"	7 "	"	Yes	" 26	Arm	"	"	"	"	"	"	" 2	" 20
60	Female	27 "	"	Yes	Oct. 21	Head and Hand	"	"	"	"	"	"	" 26	Nov. 13
61	Male	15 "	Live Oak	Yes	Sept. 12	Leg	"	"	Rabies		"	Live Oak	Nov. 12	" 29
62	"	9 "	Lloyd	Yes	Nov. 8	Hand	?	"	"		"	Lloyd	" 16	Dec. 3
63	Female	6 "	Gretna	Yes	Dec. 9	Arm, Leg, Thigh	Slight	"	Indefinite	Rabies	"	Greensboro	Dec. 16	Jan 6'10
64	Male	57 "	Fairfield	Yes	" 5	Thigh	Severe	"	Rabies		"	Ocala	" 13	Dc 31'09
65	"	21 "	Plant City	Yes	" 21	Left Leg	"	Cat	"		"	Plant City	" 27	Jn 12'10
66	"	13 "	Palatka	Yes	" 8	Right Arm	"	Dog	Indefinite	Rabies	"	Palatka	" 12	Dc 30'09
67	"	4 "	Ga. & Jac'ville	Yes	Nov. 23	Head	"	"	Rabies	"	Atlanta ***	Jacksonville	Nov. 26	Dec. 17

* 19 Cases treated in 1908. ** Patient reported had received a mild bite, and during course of treatment he failed to get two injections. It was afterward ascertained that patient had received 2 or 3 bites on different days, from the same animal. Nine weeks after the bites were inflicted, and five weeks after treatment was completed, the patient died, symptoms resembling hydrophobia. *** Just previous to removal of family from Georgia to Florida this child was bitten by rabid animal; treatment furnished by Georgia State Board of Health and administered at this office. ‡ Animal inoculation made and hydrophobia developed.

PASTEUR TREATMENT FOR THE PREVENTION OF HYDROPHOBIA
DISTRIBUTED BY MONTHS AND COUNTIES

Month.	County.	No. of Cases.	Total for Each Month
January	Columbia	1	
January	Marion	4	5
February	Brevard	2	2
March	Duval	7	7
April	Duval	1	
April	Hamilton	1	
April	Marion	1	3
May	Brevard	2	
May	Duval	2	4
June	Brevard	2	
June	Duval	1	
June	Franklin	4	
June	Hillsboro	3	
June	Washington	1	11
August	Alachua	3	
August	Columbia	1	
August	Duval	1	
August	Jefferson	1	6
September	Suwanee	1	
September	Washington	2	3
October	Washington	1	1
November	Jefferson	1	1
December	Duval	1 (from Georgia)	
December	Gadsden	1	
December	Hillsboro	1	
December	Marion	1	
December	Putnam	1	5
Total cases			48

PASTEUR TREATMENT FOR THE PREVENTION OF HYDROPHOBIA
DISTRIBUTION BY COUNTIES AND TOWNS

County.	Town.	Month.	No. of Cases.	Total Cases Each County.
Alachua	High Springs	August	3	3
Brevard	Titusville	February	2	
Brevard	Titusville	May	1	
Brevard	Titusville	June	2	
Brevard	Melbourne	May	1	6
Columbia	Lake City	January	1	
Columbia	Lake City	August	1	2
Duval	Jacksonville	March	7	
Duval	Jacksonville	April	1	
Duval	Jacksonville	May	2	
Duval	Jacksonville	June	1	
Duval	Jacksonville	August	1	
Duval	Jacksonville	December	1	13
Franklin	Carrabelle	June	4	4
Gadsden	Gretna	December	1	1
Hamilton	White Springs	April	1	1
Hillsboro	Tampa	June	2	
Hillsboro	Plant City	June	1	
Hillsboro	Plant City	December	1	4
Jefferson	Lloyd	August	1	
Jefferson	Lloyd	November	1	2
Marion	Ocala	January	4	
Marion	Dunnellon	April	1	
Marion	Fairfield	December	1	6
Putnam	Palatka	December	1	1
Suwanee	Live Oak	September	1	1
Washington	Chipley	June	1	
Washington	Chipley	September	2	
Washington	Chipley	October	1	4
Total Treatments Administered			48	48

SMALLPOX IN FLORIDA—1909

County.	Town.	No. of Cases.	Deaths.
Alachua	Newberry	1	..
Baker	Woodstock	1	..
Duval	Jacksonville	3	..
Escambia	Pensacola	9	1
Leon	Tallahassee	2	..
Monroe	Knights Key	2	..
Marion	Ocala	1	..
Volusia	DeLand	5	..
Total		24	1

FLORIDA

Health Notes

Official Bulletin

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HEALTH *of* FLORIDA
JACKSONVILLE, FLORIDA

Edited by

Joseph Y. Porter, M. D. - - *State Health Officer*
Hiram Byrd, M. D. - *Assistant State Health Officer*

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EDITED BY

JOSEPH Y. PORTER, M. D., Secretary and State Health Officer.

HIRAM BYRD, M. D., First Assistant to State Health Officer.

Offices:

Jacksonville, Dyal-Upchurch Building.

Key West, Room 10, Monroe County Court House.

Laboratory:

Jacksonville, L'Engle Building.

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Nothing has tended more to retard the advancement of science than the disposition in vulgar minds to vilify what they can not comprehend.—Johnson.

1908—1909

There is always a feeling of sadness associated with the "passing of the year." Whatsoever of sorrow, disappointments, and wrecked ambitions have happened during the year will ever be linked with the period in which it has occurred, therefore there is something touching in a retrospect of the year's happenings, when a summing up, so to speak, is made of what has befallen us and those dear to us, or in whom we may have been deeply interested during the past twelve-months. As the hour and minutes approach which tell the ever-recurring story, that another year is passing from our lives, we feel as if bidding farewell to some dear friend or intimate associate who has given us of his generosity—perhaps of the very best that he had—and who likewise may have unwillingly caused us pain and sorrow.

Yet we have an attachment for the past—those of us who have seen many years go, and with whom the milestones of life seem now to be closer together—and there is a tinge of regret which will come up, whether we want it to or not, that the immutable laws of Nature demand a "going on" and that those things which we would remember and have stay with us can never be the same, even though the effort is dextrously made to repeat pleasant happenings and joyous occasions.

While we say "farewell" to the old, yet we also say "welcome" to the new, and to all of our readers, both in and out of the State of Florida the NOTES wishes a Healthful and Happy New Year: healthful, because without this physical blessing no happiness can be reached, nor can there be any pleasure gotten out of living.

The year 1908 has dealt kindly with the people of Florida. Pestilence in epidemic form has not come nigh us, and the general health has been exceptionally good.

The State Board of Health as an organization has reason likewise for gratitude in this respect for the preservation of its members and personnel in healthful activity: a vigor of body and mind which alike will make each capable of increased energy in and for the welfare of the citizens of the State in the coming year's sanitary work.

To those of our friends who in the past year have sorrowed, mentally or physically, and who are now more recently bereaved, the NOTES offers its heartfelt sympathy, but expressing, however, the hope that Time may soften the bitterness of grief and soothe the aching throbs of the broken-heart, finding consolation and comfort in useful and unremitting efforts for the betterment of humanity.

Life, however, lengthened out by the teachings of sanitary science, is short at best. The night comes all too soon when "no man can work," therefore those who are interested in prolonging life, averting sickness, thus adding to man's comfort and the wealth of the country, must be up and doing. Push forward; be not a laggard in this work, but emulating the example of a cherished friend of the Board and of the NOTES, Get to Work!

"Howdy do," Mr. 1909! The NOTES extends the glad hand of welcome, and bids you good fellowship for the next twelve months. The NOTES hopes that you may have determined upon nothing but what is good for the State Board of Health and for Florida during your stay among us: fulfill our pleasant anticipations and wishes, and guard us and our people from any and every disaster physical or commercial. Welcome, 1909.

December 31, 1908.

TAKING STOCK

Among business men and in all well-conducted business institutions, the practice is almost universal, at some time of the year, to look into the affairs of the establishment, with a view of determining whether profits or losses have occurred, and to what extent in either case. Generally in large concerns, it takes some little time—a week, perhaps, or longer—to accurately get at the facts, and to know the exact state of the business, for upon this "taking stock" depends very often whether a business will be continued, or if continued whether it will be under the same management as before, or conducted according to new methods. A "taking of stock" therefore is needed to arrive at a settlement and to make known by statistics and figures whether the business of the year generally has been profitable or profitless.

Apply this same process of argument and reasoning to the State Health Department of Florida for illustrating certain facts explaining some apparent defects in management, and let us inquire into the assets of the year, what the liabilities in the light of popular expectation have been on the one hand, and what has been the progress in health betterment with the means at the disposal and command of the Board, on the opposite page of the ledger, to balance the account.

But before going minutely into a system of sanitary auditing, the NOTES wishes to make what may seem a bold and broad statement. It is this: that the State Board of Health has never failed in enforcing any measure which the statutes of the State authorized, *except* in collecting vital statistics, and that, too, without resorting to law or the courts to determine a controversy or compel a compliance with a sanitary requirement provided for by the statutes. It is possible that by haling into court the doctors of the State who are delinquent in reporting births and deaths occurring in their practice they might have been and still may be coerced into complying with the law in this respect, but such a course or procedure has always been distasteful and repugnant to the State Health Officer, and he will ever plead guilty to a remissness in this particular whenever this charge of neglect of duty is brought against him. The medical men of the State should be patriotic citizens and not make it necessary that one of their own profession should be compelled to invoke the power of the law against them.

There are some things which ought to have been done during the past year and have not been done, the responsibility for which can only be found out by "taking stock."

Suppose that the NOTES does this for the State Board of Health and throws open the books for the inspection of its readers and the

public of Florida, because it is the duty as well as pleasure for the Board to serve them in health protection and disease prevention. Generally, commendatory and approving mention of worthy accomplishments are first said and then are told the failures, which are usually smoothed over in an attempt to excuse shortcomings and omissions. But in this instance the NOTES proposes to reverse the order of telling, and to relate first what measures for the health of the people the Board has been restricted in.

In this "stock-taking" the debit page of the ledger shows that the State Board of Health has been denied giving that assistance to the indigent tuberculous citizen which he should receive from a Christian State.

That the Board has been unable to provide a sanitary engineer whose expert knowledge could always be at the command of towns and cities of the State when proposing to institute a sewerage system or to build water-works.

That the Board has been refused authority to exercise in a stringent way that sanitary supervision over transportation lines operating in Florida which the health of the traveling public and that of the citizens of the State demands shall be overlooked.

These are a few things which the Board has not carried out by regulation and rule. Why? it may be asked, and very pertinently, too. What excuse does the Board offer for seemingly neglecting the welfare of the people in these important particulars?

The NOTES, speaking for the Board, emphatically disclaims any intent or semblance of indifference to the health and sanitary necessities of the people, nor does it plead want of funds to carry these needful measures into effect. The failure to do what has been recommended over and over again in annual and in special reports, is due altogether to a lack of statutory authority. The Board is told that the funds of the Health Department can not be spent except for purposes which the Statutes especially provide, and the Statutes do not extend the scope of work in health betterment of the people nor lend a helping hand to the indigent sick of the State when suffering from incipient tuberculosis nor assist them to renewed health and vigor, and perhaps a permanent cure; nor even to accepting on the part of the Board of a gift to these afflicted ones of a sanatorium where comfort can be had and life prolonged.

Neither does the Statutes of the State allow the employment of a sanitary engineer, who by advice and counsel will save thousands upon thousands of dollars to cities and towns when solving problems of sewerage and water-supply.

The Board has felt that its hands were tied more than once during the past, when appealed to time and time again to suppress nuisances which were unsanitary in character and productive of sickness if left undisturbed, but which, as the Statutes did not mention, could not be dealt with by the Board or its executive officer, but had to be left to a disposing by public-spirited citizens by force of public disapproval. The advice of the State Health Officer was generally sought and always promptly given, but at the same time that official had to unwillingly acknowledge that there was no law to assist in enforcing his views.

These disappointments appearing on the debit page of the Board's expectations for the year—they can not be called failures, for a failure suggests an indifference and neglect—are, however, balanced and thrust into obscure lines, when a comparison is made of what, under trying conditions, and almost insurmountable obstacles, the Board has brought about for the general health and good of the State. Yes, there is a balance and a good showing of profits on the credit side of the ledger.

When it is considered that by advice and urgent entreaty the people of Florida have so protected themselves against smallpox by vaccinations enforced by themselves that there were but few cases of that disease occurring in the State during the past year, and that this protection has been secured in the face of determined opposition and abusive antagonism from some of the lawmakers of the State, who made a determined stand against the recommendations of the Board in this respect, it can be appreciated that the Board very naturally feels gratified at a result which its teachings show, and places this incident as a valuable asset of the Board which the Board has acquired during the past year.

Another asset of the year which shows up well on the books, is the effort made to protect and preserve from contamination the food-supply of the State, and especially milk from tuberculosis infection. While there was no Statute law by which the State Board of Health could compel milk-herders and dairymen to have their cows tested for tuberculosis prior to vending milk, yet the Board by convincing argument was able to persuade a large number of dairymen to have this test made and to influence city councilmen in other instances to provide for the test by well-drawn ordinances. The test whenever requested has been made by the veterinarian of the State Board of Health and always at no expense to the owner, whether of herd, or of private stable. Not even the traveling expenses of the veterinarian when leaving the office of the Board have been charged for.

DAMAGED PAGE(S)

Thus has the Board earned a credit on its stock book, by making it possible to give our babies, our sick, and the people generally pure milk either as food or diet.

Still another asset which the Board has acquired during the year may be mentioned: Its well-directed efforts to suppress hydrophobia, and to inhibit the exhibition of the poison in those who may have unfortunately been bitten by a rabid animal. Diffusive information has been given through the HEALTH NOTES as to symptoms of not only hydrophobia in animals, but what to do and how to do it promptly in caring for those who may have been bitten. The assistance of the laboratory was offered to determine whether the animal was rabid, and if examination showed this fact, then prompt treatment by the Pasteur method was urgently insisted on. Until the weather of summer became too warm—when the efficiency of the serum was thought might be impaired—the Pasteur treatment was administered at the office of the Board without cost to the patient. So effectual was the treatment that no one of the many who were bitten and availed themselves of the assistance of the Board developed hydrophobia. When the new laboratory building is erected and there are conveniences for manufacturing this serum, the Pasteur treatment against hydrophobic infection will be one of the public health measures permanently instituted in the Board's work.

Can the value of this asset be too strongly commented on? Of the number of those treated by the Pasteur system, there were a few who could not have afforded through impecuniosity to have made the trip to distant cities for the purpose of treatment without the aid of public charity. Failing to get this assistance, they must have under necessity remained at home, to suffer mental torture in apprehension of impending seizure, or worse yet in course of time have had hydrophobia develop, with excruciating suffering and death. These lives saved to the commonwealth were worth many times what the people of the State contributed last year to the support of its health work.

Another asset of worth on the stock books and which the Board has acquired during the year has been the general distribution of information through the NOTES and by correspondence on the subject of hookworms and the consequences which follow this infection. While the information imparted is well calculated to do inestimable good at once, yet it is for the intelligence and physical well-being of the future citizen of the State, now only in mere infancy, that the Board's instruction will be felt and appreciated. The destruction of this parasite which saps the vitality and mental vigor of the now growing child will enable the boys and girls of the future who are

now laboring under this pall to become useful citizens and developers of the State's wonderful resources.

The Board has engaged in no more beneficial efforts to its citizens than by making strenuous efforts to engage the attention and interest of parents and by demonstration to force a conclusive conviction by decisive action.

But an asset of more value than any other which the Board can or ever will acquire is the CONFIDENCE OF THE PUBLIC in its integrity and conscientious dealings with all matters affecting the rights of individuals and the welfare of communities.

This priceless possession the Board enjoys, both at home and abroad, and is the key to the arch which links all of its efforts in common benefit to the whole people.

Considering all that has been said and argued, it is fair therefore to assume that the stock-taking of the Board for the year 1908 has been satisfactory, and that the ASSETS far overbalance whatever may have been its LIABILITIES.

UNDESIRABLE?

It is recorded in the sacred writings that at the creation of the world it was decreed in the councils of Divine Wisdom everything should be in tuneful accord and in such a completeness of beauty and harmony that the Great Architect of the Universe Himself was well pleased with the perfection of the work which He had especially designed for the comfort and happiness of His last masterpiece—MAN.

The beasts of the field, the fowls of the air, and even those creatures which lived in the great waters were to be subject to the will and pleasure of this being who was to be fashioned after the image of the Great Creator himself. It is difficult, therefore, to understand why certain products of this creation were brought into existence, and given power of reproduction, when seemingly—as far as a finite mind can comprehend—they contribute neither enjoyment nor sustenance to the human family. Yet they can not be said to be unnatural productions, because they are the sequence of natural laws and are of Nature's making. But they may be said to be undesirable without in the least questioning the Wisdom which in a mysterious way directs the movement of the universe for the well-being of all mankind.

Just why insect life which disturbs the health of man, or ferocious wild beasts, and venomous reptiles, which menace the life of man, should be not only created but given full reproductive powers to

continue the peril in which their very existence places the human family is beyond the power of the mind of man to know or to reason. The facts are plain: they are here, and to escape the evil which too close an association with these undesirable creatures threaten, one must be alert, watchful and vigilant.

Thoughts of this speculative nature have been stirred up in the mind of the NOTES from two communications quite recently received by the State Health Officer on the subject of BUZZARDS. The NOTES confesses to an ignorance of the habits of these birds, except that it is known they do exist quite largely in some sections of the State and are repulsive in appearance and habits; but as to how far they are producers or spreaders of disease among domestic fowls and animals, the State Board of Health lacks the knowledge which its correspondents seek.

It was thought that the Bureau of Animal Industry of the United States Agricultural Department might supply the woful deficit which the Executive Office of the State Board of Health felt itself wanting in, but even this erudite department seems likewise to be "short," and only very generally hints at benefits as scavengers which the vultures may hold.

It is thought, therefore, that perhaps there may be an ornithologist in the State who would give the Board and the citizens of the States through the NOTES the benefit of his experience and knowledge of these birds, and in order to bring forth this desirable information the correspondence is given, suppressing names and localities, that no offense may be given to the friends of the Board and the NOTES:

————, October 20, 1908.

Dr. Joseph Y. Porter, Jacksonville, Fla.

DEAR SIR: A copy of FLORIDA HEALTH NOTES came to me this afternoon and I have not only read it carefully, but desire to express my sincere thanks for same. Truly yours is a Christian work and as such should have the endorsement and cooperation of every minister of the Gospel in the State. Personally I shall call attention to the publication from my pulpit and ask an interest in it.

There is one question which seems to me worthy of discussion, and that is the presence of the black and turkey vultures in the towns and villages of Florida. I have ventured to publish two articles along this line in one of our daily papers, with a desire to stimulate a disgust and an antagonism to them, on the following grounds:

(a) The nature of their food and manner of feeding.
(b) Their range in search of food.
(c) Their habits of roosting in the city limits, perching on the housetops and chimneys, mingling with the poultry in the backyards, and flocking to the grounds of the public school buildings for the scraps left by the children.

(d) Their habit of roosting in the country near the ponds and in the pastures where the hogs and other stock abound.

I suggested the probability of their being a medium for the spread of bacteria, polluting the cisterns, etc., *hoc omne genus,* and voiced the opinion of at least one stockraiser of this place, that they carried hog cholera germs.

My articles were merely, as I say, to stimulate interest. It may be your periodical has already given this matter attention. If not, do you not count it worthy of investigation?

Thanking you again for the HEALTH NOTES, I beg to remain,

Sincerely yours,

————————

JACKSONVILLE, FLA., October 26, 1908.

The U. S. Department of Agriculture, Washington, D. C.

GENTLEMEN: We have in this State throughout the year two kinds of buzzards: the turkey buzzard (Cathartis aura) and a species of the Cathartista, I think. Do you have any information bearing upon the possibility of these birds acting as disseminators of hog cholera or other diseases of domestic animals; or are they in any other way a factor in the public health?

Thanking you for any literature or information you may have, I am, by direction of the State Health Officer,

Very truly yours,

HIRAM BYRD,
First Assistant to the State Health Officer.

————————

UNITED STATES DEPARTMENT OF AGRICULTURE, BUREAU OF BIOLOGICAL SURVEY,
WASHINGTON, D. C., November 2, 1908.

Mr. Hiram Byrd, Assistant State Health Officer, Jacksonville, Fla.

DEAR SIR: In reply to your communication of October 26 I have to state that so far as we are aware no literature has been issued on the subject of buzzards as disseminators of hog cholera or other diseases of domestic animals. It has been frequently suggested that buzzards may be active agents in spreading hog cholera by eating the flesh of animals that have died of the disease and disseminating the bacteria through the feces. To prove or disprove this theory would require a series of experiments that this Department has as yet been unable to undertake. Moreover, it is believed that even if hog cholera is sometimes spread in this way, of which there is yet no satisfactory proof, the cause is trivial as compared with other means of distribution. There is good reason to believe that hog cholera is disseminated chiefly by mechanical means, either on the feet of human beings or of live stock or on those of birds, such as buzzards, crows, and even English sparrows. Such being the case, we are of the opinion that if every buzzard in the region infested with hog cholera were to be killed, it would have little or no effect on the spread of the disease. Inasmuch, therefore, as in all tropical and subtropical climates buzzards render efficient service as scavengers, we are not prepared at the present time to recommend that the birds be placed on the proscribed list. The prompt burning of the bodies of animals supposed to have died of hog cholera is the most efficient

means known of checking the spread of the disease, and, so far as buzzards are concerned, would prove an effective precaution.

Very truly yours,

H. W. HENSHAW,
Acting Chief, Biological Survey.

———————, November 2, 1908.

Dr. Hiram Byrd, Jacksonville, Fla.

DEAR SIR: Your kind letter with returned check to hand and I extend thanks for both. I appreciate your position in the matter and am glad to be put on the mailing list of the HEALTH NOTES. I enclose the articles in question. You will of course note at once they are meant more to create a disgust for the vulture than to give an accurate demonstration from a scientific standpoint of an established fact. I realize the condemnation of even a vulture in the language I have employed has no value from a scientific point of view. A calm, unbiased, unprejudiced investigation and its results given in simple statements is the method one should employ from the viewpoint of a scientist. The articles in which I have appealed to the people of ——— offer nothing more than a suggested investigation along certain lines, and were meant to awaken possibly by their severity a discussion of the vulture as an undesirable citizen. I am not in a position to make a fair study of the matter, as I have neither the apparatus nor the scientific knowledge. I believe, however, very firmly the vultures are dangerous to the public health.

If flies carry from putrid carcasses microbes to th[illegible] home, why couldn't a vulture roosting on the chimney-tops and on the roo[illegible] sit microbes when he and the fly held a common feast on the same carc[illegible]

So far as I know the vulture roosts have been [illegible] up in ———, but they still perch on the housetops, infest the school-g[illegible]s, pollute the chicken-yards, and scramble and fight over the refuse in the [illegible]bage-cans.

Another theory, and it is farfetched and has absolutely nothing beyond the sheer query: Could mosquitoes biting vultures get from them germs and thus infect man? We know mosquitoes bite pigeons, canary birds, etc., why not the vulture?

In investigation it seems to me soil gathered from beneath the trees in which the vultures roost might be used for examination and if you care for the same will be glad to gather some and send it to you.

Then, too, a vulture killed on a carcass should receive examination. I know the habits of the vulture in spreading his wings out to the rays of the sun and in perching on limbs exposed to the sun may be used in his favor, but wet and cloudy days are the ones in which he is worse in getting on the housetops.

Am glad you are going to give the matter your attention and wish again to offer my sincere wishes for you in your fight against disease,

Yours,

———————

———————, November 14, 1908.

Dr. Joseph Y. Porter, Jacksonville, Fla.

MY DEAR SIR: I received your panoramic fly view—have hung it up in my office. It is a good idea—should be in every house in Florida. Get up another; let the central figure be the buzzard and the leading idea be the conveying of disease to stock and the contamination of drinking-water in tanks from buzzards that light on roofs of houses. The idea of drinking water contaminated

with the fecal discharge of buzzards is revolting and disgusting, yet there is not a two-story house in ——— or ——— that they do not roost on. The cat and dog are subject to diphtheria—they are thrown out in the woods to be eaten by the buzzard. They even eat the discharge from a typhoid patient thrown out in the back yard. Yet there is a State law protecting them. Why not agitate the matter so that at least it will not be an offense against the law for the town marshal to shoot them?

Yours truly,

———————

On one of the steamers doing transportation work in this State the following lines on a pasteboard card hangs over the desk of the purser. It is in constant view and therefore a perpetual reminder. Can it be doubted but that the company who has an employe whose heart echoes such sentiments has secured an official whose considerate treatment of all who come in contact with him—passengers and fellow employes— is to be congratulated, and that method and system, combined with kindness and patience, will emphasize the wisdom of its selection, by an approving public?

If you have a work to do,
Do it now.
Skies today are clear and blue,
Clouds tomorrow come in view,
Yesterday is not for you:
Do it now!

If you have kinds words to say,
Say them now!
Tomorrow may not come your way,
Do a kindness while you may,
Loved ones will not always stay:
Say them now!

If you have a smile to show,
Show it now.
Make hearts happy, roses grow;
Let friends amid you know,
How you love them ere they go:
Show it now!

THE EFFORT TO PREVENT BLINDNESS

An earnest effort is now being made by the American Medical Association, the American Public Health Association, and other bodies, to prevent blindness in new-born children from what is known as ophthalmia neonatorum, purulent ophthalmia, or gonorrheal ophthalmia.

It is known that about one-third of the blindness in the world

is caused by this disease, and that in nearly every instance it can be prevented by proper precaution. It is felt by those interested in this subject that a proper thing to do is to direct the attention of the heads of families, especially mothers, to this danger, and to the wisdom of prevention.

All discharges from the eyes of the new-born are not of such virulent character as are those to which this article alludes, but inasmuch as the distinction between the benign and malignant discharge can be distinguished only by an expert microscopist, it will be best to regard all discharges as being of dangerous character, and to take the necessary steps for prevention or cure. The cause of the disease is a malignant germ known as the gonococcus. The way by which the germ finds its way into the eyes of the new-born child will not bear discussion in this article. It may also find its way into the eyes through the unclean fingers of a dirty midwife who, getting the germs beneath the fingernails from an infected patient, may retain them for indefinite time, and may infect one or more infants.

In an infected baby from the second to the fifth day (it may not be noticed quite so soon), a discharge will appear in the eyes of the baby, most likely noticeable at the inner corners, and this, if neglected, will soon result in malignant sore eyes, with destruction and loss of sight in one or perhaps both eyes.

As to the remedy. Prevention is better than cure. First, as the cleansing of the infant, after the first general bath for cleansing the body, the eyes should be again carefully cleansed with clean hands, clean wash rags and fresh, clean water, entirely distinct from that in which the body was bathed; then a solution of silver nitrate, five grains to the ounce of water, should be carefully dropped into each eye. If a glass dropper is used, great care should be exercised not to touch the eye for fear of scratching it. The eyelids should be gently separated and the solution allowed to reach the eyeballs. One application as a preventive agent will be sufficient. It is the custom of all careful physicians to do this as a preventive measure. An untrained midwife is not to be relied upon to do this properly, and if a physician is not to be had, it rests with the intelligent and careful mother to protect her offspring.

This article was prepared for the HEALTH NOTES, at the request of the State Board of Health, by a physician familiar with the facts and interested in the effort to prevent blindness.

INFANT MORTALITY

J. Ullman (*Buffalo Medical Journal*) states that the mortality of infant life is appalling. It is due, he declares, to the ignorance of the mother, and is greatest in proportion to the condition of poverty and the density of population. It has been designated as the "slaughter of the innocents," and still by educating the mother in cleanliness and the proper feeding of babies many an infant can be saved. "A helpless infant is entitled to milk that gives, not takes, life."—*Journal of the American Medical Association.*

If there were a little more time in our public schools devoted to the study of matters of hygiene, if the pupils were given a better insight into the laws of nature, would there be so much pain and suffering in the world because of the ignorance of the adult mind?

Mr. Ullman declares the ignorance is greatest in proportion to the condition of poverty, and right here is the kernel of the situation. There are some States in the Union that have compulsory education up to the age of fourteen years at least, and if these young minds were properly instilled with the value of clean living, would it not have some influence upon their future lives? Here is a good cause, and good work for the educators—by instructing the future mothers of the country to save the little lives that are needlessly sacrificed through ignorance.

THE RECENT CONGRESS

The many reviews and published reports of the recent International Tuberculosis Congress but accentuate the utter impossibility of completely presenting the results of such a large and unwieldy aggregation. There is no point of perspective. Viewed broadly, the Congress was an immense success from the sociologic point of view. It attracted the notice and the attention of millions of people to preventive work in tuberculosis. Most of the countries of the world were spurred to extra work on this particular subject, and even our own National Government actually produced some matters which will tend to favorably affect public health—a thing almost unprecedented (of course excepting the work of the U. S. P. H. and M. H. S.). Many thousands of people were attracted to the exhibits, and doubtless some few learned that it is no actual loss in dollars and cents to provide their tenants with sufficient light and air. In all the sections was a singular unanimity of expression of the all-important necessity of educating the public, which may be taken as the keynote of the Congress. Much space has been given to the

contention between Koch and everybody else, in nearly all the journals, and the subject seems hardly worth it. Were Koch a less notable figure, were it not for the fact that he discovered the bacillus tuberculosis, no great amount of attention would have been given to this difference of opinion. Twice has he changed his mind, and he may do so many times again; that will in no way affect the facts that are known, or will be discovered. Discussion upon matters of mere opinion is a sad waste of time. Furthermore, it is immaterial whether the bovine bacillus produces pulmonary consumption in man or not; it is admitted that it does produce other forms of the disease in man, and all are equally undesirable. Tubercle bacilli in milk do not make it more appetizing. A tempest in a teapot, forsooth. If a man is right, time will prove it; if he is wrong, the fact will in due course be known, and this whether the whole world is with him or against him.—*California State Journal of Medicine.*

Well said. We say it after you. Koch knows, as everybody else knows, that the tubercle bacillus of cows may and does cause some kind of tuberculosis in human beings. And tagging it "bovine" doesn't make it much less objectionable. Just the fact that the cow is sick is enough to turn some of us against the milk.

It may be our "raisin'," as the old darkey said when the bean-fat tourist asked what he was going to do with the 'possum he was dressing. Swelling with surprise at the "Yankee's" ignorance, he said, "I'm gwine ter eat him." To which Mr. Salem replied, "I would as soon eat dog." "Dat," said the darkey, "is owin' to a man's raisin'; if he raised to eat 'possum, he eat 'possum; if he raised to eat dog, he eat dog." It may be our "raisin'," but if I repeat that a glass of milk fresh from a sick cow is not very appetizing to us, to say nothing of the danger of contracting the cow's disease.

Prevention of the use of food capable of reproducing the disease mostly belongs to municipal authorities. They should inspect the dairies, and give or continue licenses only to those milkmen whose animals have proved healthy by the tuberculin test.

There can be no adequate control over the meat supply if the meat is not inspected and stamped previous to being offered for sale. The stamping is indispensable, as it is the only way for the public to know that the meat which is offered for sale is that which has been examined. The establishment of public abattoirs renders the control of the meat much easier to the municipal authorities.

The regular inspection of cattle throughout the Province by competent veterinary surgeons, and the slaughtering of animals found to be tuberculous complete the measures necessary to prevent the

use of tuberculous food. Such measures would at the same time prevent the propagation of the disease amongst our herds.—*The Bulletin of the Board of Health of the Province of Quebec.*

MILK MUST BE PASTEURIZED

After three years' study of the milk problem and practical experience in feeding babies, the New York Milk Committee, on December 5, promulgated a formal statement in favor of pasteurization as the method of securing safety from tuberculosis and other milk-borne diseases. The declaration of the committee was in the following terms:

"During the past three years the attitude of the New York Milk Committee toward the use of pasteurized milk has been so frequently misquoted that we ask your attention to the following authoritative statement of its opinion and practices:

"The committee approves of the pasteurization of all milk which has not been produced under sanitary conditions, which has not come from tuberculin-tested cattle and cattle otherwise free from disease, and which can not be supplied to the consumer with a sufficiently low bacterial content to offer safety from milk-borne infection.

"The committee approves of the pasteurization of milk when modified for infants' use in the home.

"The committee approves of all measures, individual, State or municipal, which will lead to the institution of sanitary conditions on dairy farms. The conviction has on two occasions led it to oppose measures directed toward the establishment of compulsory pasteurization of milk by the city or State authorities, on the ground that such measures would put the producers of dirty milk on an equal footing with the producers of clean milk, and thereby postpone the institution of the desired sanitary reforms."

At the last meeting of the board of aldermen an ordinance was introduced for the better regulation of the milk traffic. This measure, if adopted, will prevent the sale in this city of milk and cream not pasteurized that comes from dairies where herds are not certified by the Board of Health to be free from tubercular disease. The certificates would have to be renewed monthly. The first two sections of the ordinance read as follows:

"Section 1. On and after January 1, 1909, no milk nor cream shall be sold at retail, or offered for sale at retail, in the city of New York except as hereinafter provided, unless the milk or cream has been certified by the Department of Health as containing not more than 500,000 bacteria to the cubic centimeter.

"Sec. 2. All milk and cream not from certified herds, or not conforming to the said bacterial standard, shall be pasteurized by exposure for at least twenty minutes to a temperature of 167 degrees Fahrenheit, or by exposure for at least thirty minutes to a temperature of 158 degrees Fahrenheit, under the supervision of the Department of Health, and sealed with a label showing said process, as hereinafter provided."

TUBERCULOSIS AND DISCHARGED PRISONERS

Dr. J. B. Ranson, physician at Clinton Prison, at the recent meeting of the New York State Conference of Charities and Corrections, spoke of the danger of discharged prisoners infecting others with tuberculosis. He says that there are annually discharged from the penal institutions of the United States over one hundred thousand prisoners, and from the penal institutions of the State of New York twelve thousand. Of this number a large percentage are in some degree infected. These become scattered throughout the country, living under unsanitary conditions, regardless of the care of their person, and often indulging a feeling of hostility to society. The possibility of infection which this vast army may possess and its responsibility for the prevalence of this disease in our large cities and towns can not be estimated.—*Journal of the American Medical Association.*

The above is good food for reflection and must be meat for the student of sociology. Where does the remedy lie, and who will do the missionary work required? Let psychologists and sociologists set to work to solve the problem. Health boards can not do it, it is not their field nor their mission, and yet countless lives are being endangered by these individuals hostile to society and the law. The health boards can show the danger of infection and can instruct in sanitary living and expound methods of prevention, but where the individual is unwilling to receive instruction, unwilling to use precaution for the protection of his brother, because of his hatred and distrust for mankind, sanitarians stand helpless and appalled, and fain must leave the christianizing of such men to those whose duty it is to do this work. But the questions arise, who is to do it and how is it to be done? When a man thinks every other man's hand is raised against him, he is not easy of approach, nor open to conversion after the approach has been made. One can not be sure the seed that is sown will ever take root, so stony is the soil. But are the lives of innocent hundreds to be jeopardized in this manner without an effort being made to overcome the evil?

TUBERCULOSIS NUMBER

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HON. E. M. HENDRY, President, Tampa, Fla. HON. H. L. SIMPSON, M. D., Pensacola, Fla.
HON. HARRY FOZZARD, Jacksonville, Fla.

EDITED BY

JOSEPH Y. PORTER, M. D., Secretary and State Health Officer.
HIRAM BYRD, M. D., First Assistant to State Health Officer.

Offices:
Jacksonville, Dyal-Upchurch Building.
Key West, Room 10, Monroe County Court House.
Laboratory: Jacksonville, L'Engle Building.

Sent to any address in the State for the asking.
If you receive it without asking, it means that someone else has requested it for you.
When you change your address drop us a card.
When giving change of address, give both the old and the new.
Anything you want to know about the public health we will try to tell you.
Any information you want about diseases of domestic animals we will help you to get.

Vol. IV **February, 1909** **No. 2 (New Series)**

CONSUMPTION

The fields for thee have no medicinal leaf,
And the vexed ore no mineral power;
And they who love thee wait in anxious grief
Till the slow plague shall bring the fatal hour.
—*William Cullen Bryant.*

DO IT NOW

Do what now? Why? At the first opportunity which presents itself, whether altogether favorable or not, talk to the Senator and Representatives of your county on health matters and about the State Board of Health. Tell them that you are interested in the public health, and consequently the general welfare of the State; and that you hope to interest them also before you finish talking; tell them that you are a constant reader of the HEALTH NOTES, and ask if they receive and read the little pamphlet by which the State Board of Health hopes to impart useful and beneficial information to the people of Florida on matters directly relating to their own health, the health of their neighbors and the public in general.

Ask them if they have given a thought to the number of consumptives in Florida, and how many die annually of this disease among our

own citizens; and then further ask if they do not think that the State should do something to prevent this loss of life to the commonwealth. Ask them if they are aware that the State Board of Health has offered



Prof. Irving Fisher's (of Yale) figures applied to Florida.

for the use and benefit of the indigent sick of consumption a sanatorium in a healthful portion of the State yet sufficiently distant so that there would be no danger of infecting the surrounding country.

with the understanding only that the State, through the State Board of Health, would maintain and care for the sufferers of this terrible pestilence without charge, and by so doing assist them to prolong their days in peace and comfort and possibly to complete return to health. Ask your friends who are to represent you and your neighbors in the next Legislature if they know that the last Legislature "turned down" this proposition for which the State Board of Health at that time so fervently and earnestly pleaded.

Ask if they will not give a moment of their time before going to Tallahassee next April, to consider what are the needs of the citizens in further betterment of their health. Ask if, as reasonable individuals and representative men, they do not think that the citizens of Florida should be protected in their health and against disease contraction when traveling about the State as much and to as great a degree as against a loss of goods, or as against excessive transportation rates of the products of the soil.

Ask if the temptation to hide crime should not be deterred by requiring a registration of all deaths and burials in the State, thus preventing any one being "put away" without the full knowledge and permission of the health authorities of the State. Ask if those who may wish to engage in the business of embalming should not be required to show some proficiency in this work before having permission given them to ply their trade; else what surety have transportation companies that corpses will not putrify in transit and have to be buried while enroute to distant points without the State?

Ask if they or any set of men, however learned and judiciously endowed, can foretell what will happen in health affairs during the coming two years, and can provide against such exigencies by statute, in a manner that every possible occurrence will be anticipated and provided for. Ask if it is not the part of sound wisdom and intelligent judgment to concede to those who are appointed to look after the health of the people of the State such conservative discretion and authority as will permit them in a legal way to protect the citizen in his right *to live* as well as his right to acquire and hold property.

Ask them if they have heard of or can cite a single instance, when and where the State Board of Health, during the twenty years of its existence, has ever placed unjust burden on the citizen or restricted him in his movements or put him to any discomfort except during an epidemic prevalence of contagious disease, when it was absolutely necessary to do so for his own life protection or to safeguard his neigh-

bor or a nearby community. Ask if it is not true that no matter how extensively the Legislature might yield and concede to the State Board of Health warrant and power to frame rules and regulations which shall have the effect of statutory law, can not the Board at any and all times be restrained by the courts and the validity or reasonableness of its acts be passed upon by judicial authorities.

Ask them—your Senator and Representatives—if they do not know. not think, but *know*, that through the efforts of the State Board of Health, immigration to the State from the North, East and West has been encouraged by the confidence established in the State's health and the ability of the State health authorities to handle every and any emergency of disease prevalence or epidemic introduction. Would people have come to Florida, and have invested so largely of their wealth if they had not been positively certain that their health would be cared for? That is to say, that conditions would be attended to which when left to themselves would give rise to disease.

Ask them if they have ever heard or read anything about hookworms and the hookworm disease, which is sapping the vitality out of the blood of thousands of our native children—children of Florida. Ask them if they do not think that the State Board of Health is doing a Christlike work in pushing information upon parents living in country districts, concerning this trouble; and if your friends agree with you, then ask if the Board should not be allowed to increase its scope of usefulness and be given more latitude and freedom. Ask your friends, the Legislators, if they do not think that the health and life of the children of the State is of importance to the commonwealth, not saying anything about the worry, anxiety and sorrow to parents when having puny, sickly offspring to look out and care for.

When you have asked your Senator and Representatives all of these questions, and have answered them convincingly which the NOTES knows that you can and will do, then secure a promise from them that whatever measures tending to benefit the health of the people which the State Board of Health may request the next Legislature to ordain as statutory law, they will advocate and support.

If you, my reader, will interest yourself just a little in this way and talk for the State Board of Health, Florida will soon have the best code of sanitary laws that can be enacted in any State. Give the Board an opportunity, with a free hand to build upon the health reputation of the State, and watch the progress which the health government will

make; the sickness it will avert, and the lives it will be instrumental in prolonging and saving.

TUBERCULOSIS

A tuberculosis campaign is on.

Not only in Florida and the United States but all over the world.

This is a special tuberculosis number of HEALTH NOTES.

But it is not the first one.

Almost every number that has been issued since the NOTES began has dwelt upon tuberculosis.

And this is the third time that an entire number has been devoted exclusively to tuberculosis.

Nor will this be the last time.

Tuberculosis is a preventable disease and must be prevented.

A hundred years ago the most formidable disease on the face of the earth was smallpox. That has been almost wiped out of existence.

Twenty-five years ago yellow fever hung like a pall over every Southern home. That has gone with smallpox.

A generation ago diphtheria stood like a two-edged sword, suspended over every child. That has gone with smallpox and yellow fever.

A generation ago lockjaw and hydrophobia defied human skill. Now they have taken their place among the prevented diseases.

Tuberculosis kills more people and costs more money than all other communicable diseases combined, and it, too, is a preventable disease.

But it will take a combined effort on the part of the entire people to prevent it.

For twenty years the State Board of Health has been working to bring this effort about.

For twenty years the Board has had to make the fight for life almost single-handed and alone.

But it is hoped that these ninety days will mark the beginning of a new era—an era when the people will take up the slogan and pass it along—tuberculosis must be checked.

DOWN WITH DIRT, DARKNESS AND DISEASE

Tuskegee, Alabama.—"Down With Dirt, Darkness and Disease" was the slogan adopted at the First Negro Congress on Tuberculosis held at Tuskegee, the third week of December. The Negro's fight

against tuberculosis for the sake of both races was the burden of the week's meetings.

During "Health Sunday," the opening day of the Congress, seven meetings were devoted wholly or in part to problems of the human body. For six successive days the entire group of nearly fifteen hundred students attended the evening platform meetings which included a series of stereopticon addresses having to do with varied conditions conducive to the spread of tuberculosis and the control of the disease. "School Improvement," "Children's Gardens and Civics," "Playgrounds and Recreation," "What Churches Have Done," "Better Conditions for the Worker and What the Worker Can Do," and "Neighborhood Improvement in Town and Country" were some of the topics illustrated by stereopticon slides.

During five afternoons group meetings were held. These brought together circles of earnest-minded leaders who sought to define possibilities for themselves and their people throughout the country, for it was early decided that the results of the Congress should be made as far-reaching as possible. Doctors, teachers, church organizations, including the Young Men's Christian Association, women's clubs and other societies, business leagues and other men's associations, as well as the interests of the country home and school were discussed and plans for future work outlined.

WHAT NEXT?

The closing conference included representation from the thirty local, state and national welfare efforts centering at Tuskegee. In this session the leaders sought to answer, "What are we going to do about it?" They planned a permanent tuberculosis committee at Tuskegee with similar committees at other leading Negro institutions such as Hampton and Shaw, these schools to work together, each pushing the tuberculosis campaign in their immediate territory. The colored press of the country will be counted upon to spread the propaganda, and the State boards of health will be asked to supply printed matter about the disease and the manner of living which will control its spread.

HEALTH MONTH.

Of greatest hope is the plan for making February a "Health Month" for Negroes North and South. This New Year's effort began December 30th in a conference at Chicago where it was determined to lay plans so that during February practically every colored church, lodge and society in Chicago will hold a meeting to consider "Tuberculosis Among the Negroes: What Are We Going to Do About It?"

In preparation for this plan it is expected that general addresses upon tuberculosis shall be given before all of those Negro organizations in Chicago which have not already been lectured upon the subject.

The same plan will be followed wherever any considerable number of Negroes are to be found. With January as a month of preparation, February will be a month of discussion among these people who form so large a portion of the population in many sections. White citizens are asked to call attention to these plans and to give such encouragement as will advance this attempt of a race to free itself from the ravages of a needless disease and at the same time to serve the highest interests of both races.

The following admirable resolutions prepared by Mr. Routzahn are recommended to the readers of the NOTES for their earnest consideration:

RESOLUTIONS FOR ANY DAY OF YEAR

E. G.. Routzahn.

For the Well that They May Keep Well!
For the Sick that They May Get Well!

Resolved:

That I will take better care of my body.

Resolved:

That I will seek to know more about my body and so be better able to give it proper care.

Resolved:

That I will try to aid others that they may take better care of their bodies.

Resolved:

That I will plan to learn more about the conditions which affect the physical well-being of others.

Resolved:

That I will give particular attention, as occasion makes possible, to conditions affecting the health of the poor, the ignorant and the neglected.

Resolved:

That in school, church, club, lodge, union or society I will encourage the discussion of health topics and the suggestion of plans towards better health conditions in the community.

Resolved:

That I will endeavor, every day of every year, to
"Sleep in the Fresh Air."
"Work in the Fresh Air."
"Play in the Fresh Air."
"Live in the Fresh Air."

Resolved:

That I will present these resolutions, if possible, to every class and society to which I belong.

THE IMPORTANCE OF BREATHING FRESH AIR

On October 26 last, the New York newspapers gravely announced that the most prominent financier of the day was suffering from "a slight cold resulting from exposure to the night air."

From this announcement we are compelled to assume that some persons who are "educated" in the ordinary sense of the term seriously believe that there is something injurious in the character of night air, and that it is likely to produce "cold" in the bodies of those unwise individuals who breathe it.

Although physicians know that night air is likely to be better than day air, because it contains less impurities, the community does not seem to have grasped this elementary fact. "As night air is sometimes damp, do not allow it to enter your house. Do not go out at night unless you want to take cold," says materfamilias, and the whole family accepts her opinion. To make matters worse, while most doctors of medicine realize the danger of unventilated houses, few of us make a point of protesting against "stuffy" rooms, unless we are in attendance professionally. There are exceptions, of course, in the persons of some hygienic enthusiasts who, in season and out of season, preach the blessed gospel of abundant fresh air for everybody, whether well or ill.

Nobody doubts that draughts occasionally cause "colds," but the average "cold" is of micro-organic origin, and is communicated by one sufferer to others whose resisting power has been in some way lowered —often by continually breathing impure air, for a vitiated atmosphere and an impoverished physical condition are very closely connected.

In the warm, balmy days, when windows and doors are usually open, and outdoor recreation is sought, there is comparatively little sickness as the direct result of insufficient ventilation of houses, offices, etc. But as soon as cold weather arrives, the consequences of air-starvation are seen every day by general practitioners in the form of coughs, colds, sore throats, and more serious disorders. This is not surprising when we remember that every large city contains a host of men and women who have become specially susceptible to microbic attack by wearing too heavy clothes, by unsuitable diet, by lack of sufficient outdoor exercise, or by living in poorly ventilated houses. If these conditions existed exclusively among poverty-stricken immigrants, nobody would be surprised, because everything would be explained by the one word "ignorance." But it is undeniable that a considerable part of the ill health so prevalent among the wealthy and the well-to-do in cold weather is to a great extent a direct consequence

of want of fresh air—the air that causes neither sickness nor disease, unless improperly used.

Hackneyed as the subject of fresh air in relation to health undoubtedly is, there are physicians, more than a few, who appear to have forgotten well-known and undisputed facts that have been in print many times. Perhaps we may be pardoned if we repeat these facts once more in a slightly different form.

Careful attention should always be given to ventilation, so that every hall and stairway, as well as every room, will always have a "fresh" odor, which really means no odor whatever. Whenever an apartment has any smell, however slight, the time for opening at least one window has arrived. The houses of laymen, as well as those of medical men, should be thoroughly "aired" every day, however arctic the weather may be, and the windows of all sleeping-rooms should be opened as wide as possible every morning. The danger of habitually sleeping in an insufficiently ventilated apartment can not easily be exaggerated, for breathing the same air more than once poisons the whole system, as every physician is well aware.

Although headaches—and various other aches—are frequently due to lack of fresh air, yet an insignificant proportion of our patients who seek advice on account of pains in the head, "neuralgia" and "nervousness," receive the instruction "never sleep with your window closed; I mean *never*." At present the eyes are being blamed for a very large percentage of headaches, consequently the prevalent suggestion is that an oculist's services are required. It is unreasonable to expect to rise in the morning feeling strong and refreshed if a poisoned atmosphere has been breathed most of the night. It is true that, for a limited time, some people who sleep with closed windows may feel fairly well, but this merely indicates a vigorous system, probably possessing an unusual amount of vitality. In course of time the excess of carbon dioxide in the air will show its ill-effects, for the obvious reason that the comparatively pure air breathed during the day will not always be sufficient to remove the injury done during the night.

Phthisis is greatly indebted to impure air for its existence. The medical profession in the United States contains hardly a man who will deny this. But have the people been sufficiently instructed upon this point by their physicians, and do they pay attention to it? The answer to the latter part of the question must be "no," otherwise the death-rate from pulmonary tuberculosis would be decreasing to a marked extent, which is not the case. In truth, however conditions may be in

Germany, in our country the campaign in favor of hygienic education has only just begun, and preventive medicine, as a science, is almost on a par with a newborn babe.

Pure air in unlimited quantity is the only known cure for phthisis; it is Nature's cure. Sickness and premature death, even from phthisis, are, only too often, the result of violations of Nature's laws.

Pure air is a great tonic; there is nothing that will drive away the trivial nervous troubles so common among women as speedily as brisk morning walks in the country, where the air is not seriously contaminated. The patient must, of course, be induced to take a long breath every few seconds.

Fresh air will sometimes cure digestive disturbances, and it will generally benefit the cases of dyspepsia that it will not cure, because it quickens the circulation, and invigorates the entire body. Nobody can pass a whole day out of doors in the country without observing some improvement in general health on the following morning.

Many persons who have convinced themselves that they are sick, and have ingested quantities of patent medicines—and perhaps some physicians' prescriptions in addition—might be well and strong if they would partake of more fresh air plus outdoor exercise.

Let us of the medical profession persistently practice and advocate deep breathing in order to empty the lungs thoroughly as well as to strengthen them.

Let us do our utmost to persuade our friends and patients to walk some part of the way to their work in the mornings, thus avoiding, as far as possible, the foul air of the street-cars.

In connection with fresh air, the sun naturally comes to one's mind. The sun is the friend of man, and a part of his life. It is, as all physicians realize, the great enemy of microbic disease. We need the sun nearly as much as we need fresh air, and the common plan of excluding it from our homes for fear that it may injure the carpets or the chairs is a hygienic crime. While this exclusion may save the cost of new furniture, it will surely increase the number of professional visits made by the colleague who kindly attends to our family—and it may hasten the advent of the undertaker.—*From The Lancet-Clinic.*

THE TRAGEDY OF TUBERCULOSIS

J. Macdonald refers to the family of a crofter who had lived in the same house for 26 years. Until the spring of 1906 the whole family consisting of himself, his wife, five daughters, and seven sons, the

oldest being 21 years and the youngest 2, had always been healthy. In April, 1906, the oldest girl, aged 21, who had been in service, came home suffering from a suppurating finger. Symptoms of phthisis manifested themselves, and she died of tuberculous meningitis on May 26. In the following November another daughter, aged 14, was found to be suffering from well-marked phthisis in both lungs. Death took place on January 8, 1907. During the time that she was ill the father began to suffer from a cough, and the mother complained of pain in the abdomen and the left ankle. Two daughters, aged respectively 20 and 10, also complained of cough, and the baby, aged 2, was anemic and emaciated, and also had a cough. Examination showed that the mother was suffering from tuberculous disease of the ankle and there seemed to be reason to suspect the existence of similar disease in the abdomen, while the two daughters and the baby showed distinct signs of pulmonary phthisis. The baby died on January 3, and the daughter, aged 10, on January 10, after an illness of about three weeks. The mother was removed to the Western Infirmary, Glasgow. The father, who up to this point was the only one of the male side of the house to be attacked, did not improve. In March, however, it was found that a boy, aged 15, was suffering from phthisis. Meanwhile the father got worse and died soon afterwards. Attention is drawn to the following points of interest in connection with the outbreak: (*a*) The entire absence of a family history, or predisposition on either side; (*b*) the fact that for twenty-one years the family had occupied the same croft healthily; (*c*) the fact that the disease attacked the female side of the house first; (*d*) the acute onset of the disease in the majority of the cases; (*e*) the rapid destruction of lung tissue, very high temperatures in some, and the fact that there was very little expectoration in any of the cases; (*f*) within three months, father, mother, four sisters, and a brother have all been attacked, with 4 deaths out of 7 cases. The house was of the ordinary type of crofter's dwelling, consisting of two apartments, with stone walls, thatched roof, clay floors, and very damp. The people were particularly clean and tidy, and kept their house in an excellent condition. According to recent information, the mother has died of tuberculous peritonitis in Glasgow. The ravages of the disease have not ended there, and the family is in danger of utter extermination. Its doom recalls the fatefulness of a Greek tragedy.—*British Medical Journal.*

A little pamphlet entitled "Simple Lessons on Tuberculosis or Consumption," for school children of the seventh and eighth grades, has

been prepared and published by the Committee for the Prevention of Consumption of the Associated Charities, Washington, D. C.

It is an excellent little brochure prepared by men eminent in the profession—men who speak with authority. The following paragraphs are quoted from the first part of this little publication:

What is Tuberculosis or Consumption?

Tuberculosis and consumption are two names for one disease. The disease is caused by the growth and multiplication of a minute plant in the body of a person or an animal. The minute plant is called a bacillus, and is so small that it must be magnified several hundred times before it can be seen; it is spoken of as the tubercle bacillus or consumption germ.

The presence of the tubercle bacillus in the body does not always cause consumption. When the germs of consumption get into the body a struggle occurs between the germs and the cells of which the body is composed. If the cells are victorious the disease does not develop; if the germs are victorious tubercles, or little tumor-like knots or nodules, are formed. This is tuberculosis.

What Parts of the Body Does Consumption Affect?

Though consumption affects the lungs more commonly than other parts of the body, it may affect any part of it, such as the liver, the intestine, the lymph glands, the bones, the skin, the eye, the coverings of the brain, etc.

Why is Tuberculosis of the Lungs Especially Dangerous to Others?

Tubercles in the lungs soften and break down after awhile and the material of which they are composed is coughed up into the mouth. This material often contains millions of tubercle bacilli and is therefore very dangerous.

How are Tubercle Bacilli or Consumption Germs Scattered by Persons?

Tubercle bacilli, or consumption germs, are commonly present in large numbers in the material coughed up by persons who have tuberculosis of the lungs or throat. They are also present in the mouths of such persons and in the little drops of fluid sprinkled from their mouths and noses during coughing, sneezing and talking. Hence it is through the material that leaves the mouths and noses of consumptive persons that tubercle bacilli are scattered.

The germ laden sputum from the mouths of consumptives may cling to towels, glasses, napkins, handkerchiefs, spoons, sheets, pillow cases, slates, slate pencils, and numerous other articles.

Drinking from glasses or cups without thoroughly cleaning them after they have been used by others is a practice through which not only consumption but also sore throat, diphtheria, scarlet fever and some other diseases may be communicated to us.

No habit is more to be condemned than that practiced by many persons of kissing babies and young children, especially on the mouth.

How Are Tubercle Bacilli, or Consumption Germs Scattered by Animals?

The germs of consumption may be present in meat when it is obtained from tuberculous animals, but the most frequent way in which the germs of consumption from animals reach persons is in milk, cream, ice-cream, butter and cheese from tuberculous cows.

If milk were a transparent fluid like water, the enormous number of bacteria dairy milk usually contains would be clearly visible; that is, it would look cloudy. Disease germs, including the tubercle bacillus, are readily destroyed by heat. Raw milk is apt to be dangerous, because it often conveys other diseases as well as tuberculosis, such as scarlet fever, diphtheria, typhoid fever, etc.

We can make sure that the germs of diseases named in milk are destroyed by pasteurizing or by simply scalding it.

Pasteurization of Milk.

Heating milk a short time just hot enough to kill the disease germs it may contain is known as pasteurizing it. Milk boils at about 212 degrees Fahrenheit, or the temperature at which water boils. To kill the disease germs that are of more common occurrence in milk, it should be heated to 140 degrees Fahrenheit for twenty minutes or to 150 degrees Fahrenheit for ten minutes. Pasteurized milk and also scalded milk should be cooled quickly and should be kept cold and covered until it is used.

Large Number of Victims of Tuberculosis.

It is estimated that over 150,000 people die of consumption every year in the United States; so that, unless the existing conditions are improved, eight million of the people now living in our country are destined to die of consumption. The disease affects the old and the young and is particularly deadly between the ages of fifteen and forty years, which is the period of greatest vigor and usefulness.

It is further estimated that nearly a quarter of the dairy cows from which cities obtain their milk-supplies are affected more or less seriously with consumption.

Tuberculosis or consumption causes greater losses and destroys more lives than any other disease.

What is the Character of Tuberculosis or Consumption?

Tuberculosis is usually an insidious, slow disease, which may be in the body a long time before it causes a notable change from health. Later on it causes general weakening, loss of appetite, a more or less severe cough, bleeding from the lungs, loss of flesh, and other conditions by which it is easily recognized.

At times, however, tuberculosis may be very acute, and may kill a person in a few weeks. To this rapid form of the disease the name of galloping consumption has been given. The insidious, concealed nature of tuberculosis often prevents its detection during its early stages; hence, as those who must cough and spit can never be certain that they are free from consumption, all persons should make it a rule never to spit carelessly, for fear that they may scatter disease germs.

What Are the Early Symptoms of Consumption?

Among the early symptoms of consumption the following may be named: Short periods of fever that repeat themselves daily, especially in the afternoon and evening; unusual quickening of the heart beats after slight exertion; loss of weight and strength; lack of appetite or otherwise disturbed digestion for which no satisfactory explanation can be found, etc.

CONSUMPTION IS NOT INHERITED.

Consumption is not inherited, and large families of children of consumptive parents may pass through life without the slightest trace of the disease.

The tendency for tuberculosis to run in families is largely due to the fact that the children of consumptive parents are exposed from the beginning of their lives to the tubercle bacilli scattered by the parents during coughing. sneeezing, etc.

WITHOUT THE TUBERCLE BACILLUS THERE CAN BE NO CONSUMPTION.

Consumption can not develop unless the tubercle bacillus, or consumption germ, enters the body. It is therefore of the greatest importance to destroy the sputum of consumptive persons and to avoid the use of dairy products from consumptive cows.

Many unhygienic conditions favor the development of consumption and other diseases, and often the tubercle bacillus is harmless without the aid of these conditions. It is therefore advisable to live hygienic lives.

Some of the conditions that favor the development of consumption will be given separate consideration.

MEDICAL EXTRACTS

A method of treating tuberculosis by hypodermic injections of mercury has lately attracted considerable attention. It was brought out by Dr. Barton Lisle Wright, surgeon in the United States navy. Quite a number of cases have been treated with apparently beneficial results. Dr. Wright's method of administration and technique are as follows:

METHOD OF ADMINISTRATION.

One injection of hydrargyrum succinimidum gm. 0.013 (gr. 1-5) is given every other day until thirty injections have been given. Then injections are discontinued and potassium iodid gm. 0.2 (gr. iii) to gm. 0.648 (gr. x) is given, well diluted with water, one-half hour after meals for two weeks. Then potassium iodid is discontinued and no medication is given for one week. Injections are then resumed as follows: One injection every other day until thirty injections have been given, on alternating injection days giving hydrargyrum succinimidum gm. 0.013 (gr. 1-5) and gm. 0.006 (gr. 1-10) respectively. After the thirtieth injection the same course of potassium iodid is given as followed the first series of injections; then a week free from medication. The injections are then resumed again, the succinimidum gm. 0.006 (gr. 1-10) being given every other day until thirty injections have been given. By the end of this third series experience will direct any necessary further treatment. The above recommendation for dosage is not to be considered absolute, but only a guide. Close observation of each individual patient must fix the dose of the first series of injections. (Treatment of Tuberculosis by the Administration of Mercury. Barton Lisle Wright, M. D.)

TECHNIQUE *for the* ADMINISTRATION *of* MERCURY *for the* CURE *of* TUBERCULAR AFFECTIONS

The general treatment of tubercular patients is now so generally understood, that this very important part of the treatment will be omitted from these directions.

The preparation of mercury used is hydrargyrum succinimidum.

Just before the injections are to be given distilled water is boiled for at least twenty minutes.

A solution is then made up so that 0.64 c.c. (min. x) equals gms. 0.013 (grain 1-5) of hydrarg. succinimide.

The syringes and needles should be boiled for twenty minutes.

The skin of the patient's buttock is scrubbed with hot water and tincture green soap, then washed with alcohol, followed by ether, and then with 1-3000 bichloride solution.

The surgeon's hands are prepared as for an operation, and sterilized rubber gloves are worn.

The patient in prone position on table, the needle by a quick downward plunge is driven deeply into muscle tissue; if no blood escapes from the butt of the needle, the syringe is put in place and the drug injected.

If blood escapes from the needle, a vein has been punctured and the needle is removed and reapplied.

MERCURIAL TREATMENT *of* TUBERCULOSIS APPLIED

One of the leading physicians in this State reporting upon the administration of mercury after Wright's method in the treatment of tuberculosis writes us as follows:

Dr. Hiram Byrd, Jacksonville, Fla.

DEAR DOCTOR: Your letter of the 18th was received yesterday, and carefully noted. Will say that I will only be too glad to do what I can in assisting in this county in the campaign in trying to educate the people in the fight against tuberculosis. I am very much interested in the fight against this terrible disease, and for the past few years have been doing all I could, although it seems to me that it has been a very feeble effort, at least I seem to accomplish so little. I am sure that you would be surprised at the number of cases that have come under my own observation in this county all of which, or nearly all, are far advanced in the disease. This condition is accounted for, I think, in two ways, first because the patients do not recognize their own condition, and second that the physician does not recognize it, when they come in time to check or cure the disease if the proper diagnosis were made. While I have been making special efforts in diagnosing, I find it very difficult to make early di-

agnoses. Often I make a diagnosis of early tuberculosis, and send a specimen to the bacteriologist and he fails to find the bacilli, and I think that I have made a mistake, which in nearly all cases I have, but in several instances the patient has had hemorrhages in a few weeks or months.

I have thought for some time that I would report to you, three cases of tuberculosis that I have under treatment, and as I am writing now will do so. The treatment is the Wright method, with mercury. On December 1st I selected three cases, one a chronic case, which has remained about the same for the past year, and who has had it for five or six years. The other was a case who was perfectly well so far as she knew until about August last, when she developed a cough, night sweats, etc. Up to this time she weighed 165 pounds. She rapidly grew worse, and called at my office about last of September or first of October, and I diagnosed consumption in advanced stage. She would not believe it and applied to another physician. She continued to grow worse and last of November she returned to me, and I secured a specimen of sputum and sent it to the bacteriologist who confirmed my diagnosis. The other patient was a negro woman, who was far advanced with the disease. On December the 1st I put these three on the above treatment. The negro woman kept faith with me until January 1st, when she became irregular in her visits and discontinued her treatment. The other two have not failed and have received injections every other day. The first patient mentioned has improved some, gained two and one-half pounds in six weeks, and claims he feels much better in many ways. I can not say that I see a great difference in his condition. The second patient mentioned has, I must say, improved very much. At the time she commenced treatment she could not walk to my office without stopping to rest several times. She can now walk around the lake, which you know is more than a mile, and has gained 3¾ pounds, and says she feels very much better every way. She certainly looks very much better, but she still has the night sweats very bad some nights. Lung examinations at times indicate they are very much better, and at other times not any better. So I can not say for sure that they are any better. I forgot to say that the second patient, who weighed 165 pounds when first taken, weighed 126 the day she took the first injection.

What I want to know is what are the sure symptoms of permanent improvement or cure? I am at a loss to know whether my patients are making any permanent improvement, or whether they are any better at all.

I have some patients who have been on tonic treatment with outdoor living and feeding who seem to be perfectly well, and do not show any bacilli in their sputa.

What do you think of the Wright treatment?

I shall be glad to receive any suggestions or advice along this line you will give me.

Very truly yours,

The Record Co.,
St. Augustine, Fla.

HOOKWORM NUMBER

Florida Health Notes

OFFICIAL BULLETIN

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HON. E. M. HENDRY, President, Tampa, Fla.
HON. H. L. SIMPSON, M. D., Pensacola, Fla.
HON. HARRY FOZZARD, Jacksonville, Fla.

EDITED BY

JOSEPH Y. PORTER, M. D., Secretary and State Health Officer.
HIRAM BYRD, M. D., Assistant State Health Officer.

Offices:
Jacksonville, Dyal-Upchurch Building.
Key West, Room 10, Monroe County Court House.
Laboratory: Jacksonville, L'Engle Building.

Sent to any address in the State for the asking.

If you receive it without asking, it means that someone else has requested it for you.

When you change your address drop us a card.

When giving change of address, give both the old and the new.

Anything you want to know about the public health we will try to tell you.

Any information you want about diseases of domestic animals we will help you to get.

Vol. IV **March, 1909** **No. 3 (New Series)**

Let our unceasing, earnest prayer
Be, too, for light,—for strength to bear
Our portion of the weight of care,
That crushes into dumb despair
One half the human race. —*Longfellow.*

IF HE ONLY KNEW

If there is one disease in which sanitary science has outstripped the practical application of it, it is with reference to the prevention of this disease, ankylostomiasis (hook-worms), which causes such a high sick mortality rate amongst the native labor communities.

Such is the language of Dr. Newell, of India. And the hook-worm is there even as it is here. Tropical and semi-tropical countries require only the introduction of this parasite to become its prey, for the other conditions are already fulfilled. No one would suffer from this disease if he only knew two simple things.

If he only knew that by writing to the State Board of Health he could get any information that he wants or needs, would he still be ignorant? If he only knew?

If he only knew how to get relief from this blood-thirsty parasite, how to change his sallow bloated cheek for the ruddy glow of health, would he? If he only knew?

If he only knew that by sending a specimen of stool to the State Board of Health he could have it examined without charge and in that way definitely determine whether or not he is infected; and if then he only *knew* that thymol in proper dosage would expel the worms and relieve the trouble—I say, if he only knew these two simple things, would he go through life an invalid—if he only knew?

UNCINARIASIS IN THE PUBLIC SCHOOLS OF FLORIDA

(Paper read by Dr. Hiram Byrd before the State Teachers' Association at Gainesville, Fla., December 31, 1908.)

LADIES AND GENTLEMEN: It is estimated that there are two hundred and eighty-seven thousand children of school age in the State of Florida. Over two hundred thousand of these live in the rural communities and smaller towns. Over two hundred thousand then are living under conditions that invite hook-worm anemia.

Just how many are actually suffering from it is hard to estimate, for the reason that the subject is relatively a new one, at least in this country. It was only six years ago that the parasite was first discovered on the American continent. But during these six years it has attracted wide attention. In the United States it is limited to the southern part, but it prevails from Virginia to the Gulf. It is, according to Stiles, more prevalent where the soil is sandy than in the clay districts. According to that authority, in some sections of the South, as high as thirty-three per cent. of the children are infested. Whether that is true in Florida is a matter for investigation. But that it is widely prevalent we know from the combined testimony of physicians all over the State, and from the number of specimens sent to the laboratory of the State Board of Health for examination, and from personal observation. Recently a number of letters were sent to physicians in all parts of the State, making inquiry as to the prevalence and extent of hook-worms, and the following are some of the replies: One doctor says:

It is all simply conjecture as to how many are infested, but many more than are suspected. Malarial poisoning has long borne the blame where it was, in most cases, innocent.

Another writes:

To make a rough guess I would say 5 per cent.*

*It is to be noted that this man lived in one of the centers of population and that his practice is largely urban. Also it is in a more or less clay section.

Still another, who is one of the best posted men in the State and a very close observer says:

In reply to your inquiry of the 5th instant, will state that in company with Dr. K. I visited the schoolhouse this morning. We examined 125 of the small children from six to ten years old. 50 per cent. of them showed evidence of hook-worm infection. In the children from the town the per cent. is not so high—perhaps 30 to 40 per cent., while in those from the country it will run from 60 to 75 per cent. There is a strip of sandy country lying north of town where Dr. A. has done considerable work in this line. It is his opinion that between 75 and 85 per cent. of the children living in that district are infected. Taking the children as a whole, more than 50 per cent. in this community are infected.

So you see that while we don't know how many, or what proportion are infected, we *do* know that a large number are, and that they come from every nook and corner of the State, and that while the poorer families furnish the greater number of them, yet not all, for they come from every walk of life. And we know that they are numbered, not by hundreds, but by thousands. It is in behalf of these sufferers from a disease very destructive to life, very disastrous to development, very easy to recognize, very inexpensive to treat, and very quick to recover, that I appeal to you tonight.

In the outset, let us understand what we are talking about. It is a widely prevalent disease among our children due to an intestinal parasite, the hook-worm, and causing the child to become, first, indisposed, and then, as the infection advances, the child gets to look more and more like what we know as a "dirt-eater."

All our lives we have seen little, undersized, pale, sallow, pot-bellied, breathless, bloated children. Sometimes it is attributed to chronic malaria, sometimes to chewing resin, sometimes to eating dirt. In fact, many of them are admitted dirt-eaters, others we suspect though they do not admit it. Mothers have called them "puny," and have dosed them on vinegar and nails.* Doctors have attributed it to lack of iron and have accordingly administered cinders, tincture, filings, etc. But though we have known the true nature of the malady only a short while, the disease is an old one. We have reason to believe it was prevalent in Egypt fifteen hundred years before Christ. But its modern history dates from 1838, when Dr. Angelo Dubini, of Milan, Italy, performing an autopsy on a man that died from some

*Rusty nails are put into a bottle of vinegar and left to stand for a few days after which the vinegar is dosed out to the child.

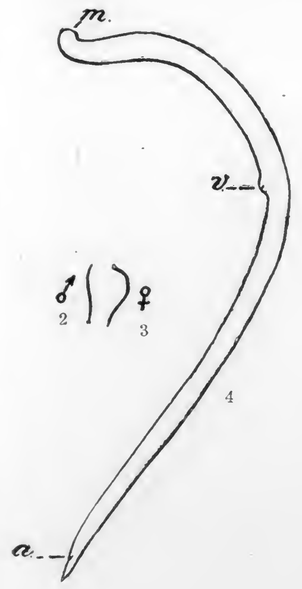
lung trouble, stumbled upon a little white worm in the intestine, with its head buried deep in the mucous membrane. He was interested in it as a curious parasite, which he thought possibly contributed to the production of chronic diarrhea.

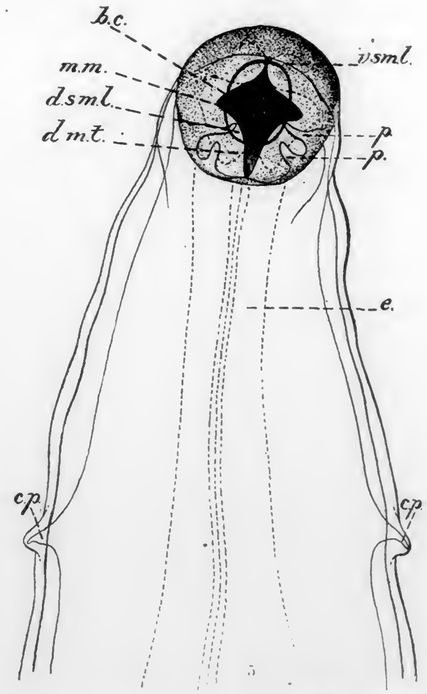
For the next forty years the parasite in question attracted attention here and there, but medical acquaintance with it did not make any definite advances till 1877, when another Italian physician, Grassi, by name, found the eggs of the worm in the stools of anemic patients and associated the two.

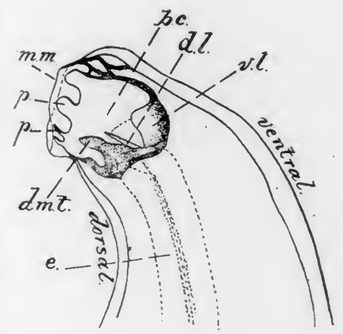
In 1872, an engineering feat, the like of which had never before been accomplished in all the world, was undertaken. Italy and Switzerland were still separated by the Alps, that two thousand years before Hannibal had found so difficult to cross. That the two countries might have better communication, get closer together, so to speak, it was undertaken to construct the great St. Gothard Tunnel, a tunnel over thirteen miles long, and which it took nearly as many years to complete. Thousands of laborers were engaged in this stupendous undertaking and soon they began to sicken and die without assignable cause. It was not until the tunnel was within a year of completion that Dr. Colomiatti found in the intestine of a man who had died of tunnel disease, as it was called, fifteen hundred hook-worms.

From this date forward it was known that the hook-worm was the causative factor in producing the anemia, but it remained for later discoveries to determine how to recognize it with facility, how to treat it with success, and withal how it is acquired and how it may be prevented.

The parasite exists among negroes, even as among whites. In fact, the evidence is very strong that the parasite was brought to America from Africa with the negroes. But while they have it they rarely suffer from it. They seem to enjoy a specific immunity against its harmful effects. To illustrate this let us take the disease among domestic animals called surra. This is a very deadly disease among horses. Cows have surra too, but it does not make them sick. In countries where surra exists, as in certain parts of Africa, a man would not dare stable his horse and cow near each other, for the cow would most certainly contract surra, and without showing any symptoms of it herself would just as surely give it to the horse with fatal results. So it is with hook-worm anemia and the negro. He has the parasites even as the whites, but he does not suffer from them as the whites do. More than that—the negro is a greater polluter of







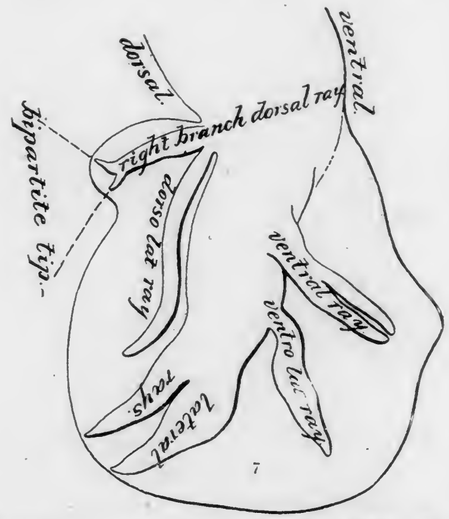


FIG. 2.—New World male hookworm (*Uncinaria americana*). Natural size. (After Stiles, 1902b, p. 190, fig. 120.)

FIG. 3.—New World female hookworm (*Uncinaria americana*). Natural size. (After Stiles, 1902b, p. 190, fig. 121.)

FIG. 4.—The same, enlarged to show the position of the anus (*a*) and the vulva (*v*). After Stiles, 1902b, p. 190, fig. 122.)

FIG. 5.—Dorsal view of anterior end of New World hookworm (*Uncinaria americana*): *b. c.*, buccal cavity; *c. p.*, cervical papillæ; *d. m. t.*, dorsal median tooth, projecting prominently into the buccal cavity; *d. sm. l.*, small dorsal semilunar lip; *e.*, esophagus; *m. m.*, margin of mouth, the prominent oval opening seen upon high focus; *p. p.*, papillæ; *v. sm. l.*, large ventral semilunar lips homologous with the ventral hooks of *A. duodenale*. Greatly enlarged. (After Stiles, 1902b, p. 190, fig. 123.)

FIG. 6.—Lateral view of anterior end of New World hookworm (*Uncinaria americana*): *b. c.*, buccal cavity; *d. m. t.*, dorsal median tooth, projecting prominently into buccal cavity; *e.*, esophagus; *m. m.*, margin of mouth; *p. p.*, papillæ; *d. l.*, dorsal lancet; *v. l.*, ventral lancets at the base of the buccal cavity. Greatly enlarged. (After Stiles, 1902b, p. 190, fig. 124.)

FIG. 7.—Lateral view of caudal bursa of the New World male hookworm (*Uncinaria americana*), showing the arrangement of the rays. Note the short dorsal lobe. Greatly enlarged. (After Stiles, 1902b, p. 190, fig. 125.)

the soil than the whites, and it seems the irony of fate that he should spread it broadcast over the country to sap the vitality of the whites while the perpetrator goes unscathed and in no wise suffers from his own careless habits. It emphasizes the fact that in matters pertaining to the public health we can not escape the influence of our humblest or filthiest neighbor, however hard we may try. We don't have to intermarry with the negro, we don't have to eat at the same table with him, or ride in the same car, or otherwise associate with him, but when he pollutes the soil and gives our children ground-itch, and when he scatters the seeds of consumption throughout the length and breadth of the land, what alternative have we but to take them?

The hook-worm is very small; the female perhaps three-fourths of an inch long and the male only half as long as the female.

They are no larger in diameter than a No. 50 sewing thread, and when seen en masse they look something like little bits of white thread cut in one-half and three-quarter inch lengths. In color they range from white to brown, depending upon the amount of blood in the alimentary tract of the worm.

The head of the worm bends backward on the neck, forming the "hook" hence the name, "hook"-worm. There are two kinds affecting man. One is known as the Old World hook-worm, or Uncinaria duodenale, and the other the New World hook-worm, or the Uncinaria Americana.

Their difference is a biological one and does not concern the patient. To him a hook-worm is a hook-worm.

The term hook-worm is very expressive, and easily remembered and will always be used by non-medical people, while the term uncinaria, though more accurate, will be used in medical and scientific circles. For the present we shall say hook-worm.

And you should know that there are several kind of hook-worms. There is a kind affecting the dog and in some parts of the country it kills 25 to 40 per cent. of all pups born. According to Stiles, this is common in Washington, D. C. There is a disease of cats known as typhoid fever, which is due to hook-worms of the cat; another kind infests foxes. A certain kind of hook-worm infests sheep and has been known to kill 25 to 50 per cent. of entire flocks. Dr. Dawson found a hook-worm infesting the cattle of Florida. In Alaska a certain hook-worm infests the seals and it has been estimated that as high as 17 per cent. of seal pups die from hook-worms.

So you see man is not the only animal that suffers from this blood-

thirsty parasite. But this one thing is to be borne in mind: that the hook-worms of man, so far as is known, do not infest other animals and also, the hook-worms of the other animals are not known to infest human beings. There is an old superstition that a horse hair left in water in the watering trough will finally turn to a worm. Children frequently eat raw turnips, radishes, etc., and are told that it will make them wormy. This indicates what a cloud hangs over the origin of worms.

Let us try then to get a clear conception of the life cycle of the hook-worm. Beginning where we find the adult worm, let us follow him through his changes till we reach the adult stage again. It is in the small intestine of the child or adult, as the case may be, that the adult life is passed. It is here that the eggs are deposited. Deposited here, but not hatched here. It is a law of parasitism that the offspring must seek other hosts. The young doesn't grow up beside his parent. They must get out and seek their living elsewhere. The eggs then are passed in the stools. And as soon as they reach the outer air then begin to get ready to hatch.

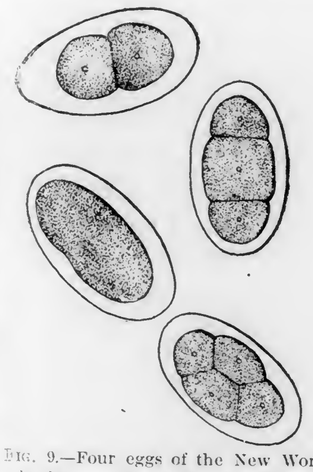


FIG. 9.—Four eggs of the New World hookworm, *Uncinaria americana*, in the 1, 2, and 4 cell stages. The egg showing 3 cells is a lateral view of a 4-cell stage. These eggs are found in the feces of patients and give a positive diagnosis of infection. Greatly enlarged. (After Stiles, 1902b, p. 192, fig. 127.)

At first, the egg, as seen under the microscope, has only a granular appearance in general, but it has a distinct capsule, shell, so to speak. Finally the granular portion divides, making two, then it divides again and again, till it becomes a mass of coarse grains, and slowly out of these the young worm is formed. He may be seen coiled up in the capsule, and if you have him under the microscope, looking at the right time, you may see him break out of the shell and escape—a tiny worm, the rhabditiform embryo of the hook-worm. In this stage it eats and grows and is easily destroyed. In about two days it casts its skin, but does not change its organization. When about five days old it casts its skin a second time and now enters upon the second stage of its development. In this stage it is called the encysted larva. It ceases to eat, ceases to grow, and becomes very resistant, hard to

kill. Loos kept some of them alive in water thirty days. They live a long time in damp earth.

This is the infecting stage. No further change takes place until the encysted larva comes in contact with the skin of the host, which in this case is the child. But when the child walks over damp earth containing these encysted larvae they at once attach themselves to the foot, and burrow into the skin, causing the symptoms we know as ground-itch. Soon they reach the circulation, either directly or through the lymphatics, thence through the circulation they reach the pulmonary capillaries. Here they lodge because they are too large to pass through the capillaries. They now break through into the air-cells of the lungs, are coughed up and swallowed. Soon they reach the intestine and here they undergo further development, and in the course of time (about six weeks, it is thought) they are adult hook-worms, living at the expense of the host, and depositing eggs to pass out and hatch and give other children ground-itch, and in turn hook-worms.

We have seen that the parasite lives in the intestinal canal with its head buried deep in the mucous membrane, sucking the blood of the child. He turns loose in one place and takes hold in another. He has been said to act upon the health of the child in five distinct ways. 1st, by sucking blood directly; 2d, when the worm turns loose in one place to take hold in another he leaves a minute bleeding point; 3d, this biting of the mucous membrane causes an inflammatory thickening of the membrane and impairs its function; 4th, these little bleeding points are so many foci where infection may be let in; 5th, and this is perhaps the most important,* the worm elaborates a toxin which poisons the child. In view of all this we would expect the patient to have a deficiency of blood, and so it has. We would expect digestive disturbance, morbid appetite, etc., and these we practically always find.

A little girl came into the office of the State Board of Health to get vaccinated. She said she was eleven years old, though she looked no more than seven or eight. She had been a sufferer from the age

*The following case reported by Dr. Cline of Arcadia, points very strongly to hook-worm intoxication:

"Male child, 27 months old, well developed, always been very well and rosy. Seven weeks ago had two very small patches of ground-itch on foot. Ten days ago began to feel bad and did not look well. Last Monday brought for treatment. He was pale and had a marked hemic murmur. I at once gave thymol and found both worms and eggs. Day by day the anemia increased more rapidly than I ever saw a case. Yesterday he was white. Death occurred last night."

of three or four. She was very pale, anemic, hair dry and with a hempen feel, ears translucent, arms and legs little and flabby, abdomen protruding and tender, a hemic murmur of the heart, a shortness of breath, especially on the least exertion, a sufferer from headache, an abnormal appetite, and a facial expression which is that of neither childhood nor age, but rather an expression of pain from which the sufferer had not been able to escape till it had become inwoven into the features, and finally the lusterless eye bespeaking an intelligence far more immature than the years. And this is such a common picture! Among the mining districts it prevails, and is called "miner's anemia." Sufferers from it in the South are called, "poor white trash," "crackers," "clay-eaters," "dirt-eaters," and as many other contemptible epithets as a haughty public and a flexible English can devise. Sometimes it is one in a family like this, sometimes two, sometimes a whole family. In places, almost entire communities are infested.

In severe cases any or all of these symptoms may be present, and severely so. In milder cases the child is only "puny." But as the disease progresses, it gets worse and worse. At first, perhaps the eyes are a little swollen when the child gets up in the morning. Later, the feet and legs begin to swell and then the bloating becomes general. The protruding abdomen is tender, shortness of breath supervenes, the whites of the eyes become more and more blanched, the lips more and more livid, the ears more and more translucent, the bloating more and more pronounced, the headache more and more constant, the child more and more helpless, till, in some cases, death relieves the little sufferer; in others they continue, not to live, but to exist.

They have not the size of their age, not the strength of their size, nor the vivacity of childhood, nor the intelligence they inherit. They can't exercise for lack of breath, they can't study for want of nerve force, they can't grow, for it takes all they can do to keep alive. And as the years pass on, these little dwarfs in body and mind fail to come to the estate of manhood—or womanhood. The one develops little or no beard—the other is as flat chested when she ceases to grow as she was when a child—both of a lower order of intelligence than their parents, and so it goes through generation after generation, getting weaker and weaker both physically and mentally. Some of these people have as fine blood in their veins as America can boast of, but it is through disease that they have deteriorated.

By observing these symptoms, any one can very readily recognize a case of even moderate severity. Not a great while ago I visited one of the largest and best schools in the State. The principal kindly took me through every room. I told him in the outset what I was looking for and he was from that moment quite proficient in pointing out suspicious cases, of which we found several.

It doesn't take a medical education—it doesn't take extraordinary ability—it only requires ability to use one's eyes, and this all teachers should have. But to make a positive diagnosis requires something more than this—it requires an examination of the stools of the suspected patient for the eggs of the hook-worm. This can be done only by means of a microscope, for the eggs are entirely too small to be seen with the unaided eye. The State Board of Health maintains a laboratory for this purpose.

The treatment of the trouble is relatively simple. It consists of first, removing the parasites; second, giving wholesome, nutritious food.

Several medicinal agents have the effect of removing the hook-worm, but for practical purposes, thymol is most largely used. This is a white crystalline substance from the plant thyme. It is administered to the child in large doses. It should be given by the family physician. About one course of thymol is given a week, for eight or ten weeks, or until the eggs disappear from the stools. I know of no malady in the whole catalogue in which treatment is so certain, so universally applicable, and so satisfactory.

Three years ago we advertised for an office boy. Several applied but all were objectionable. One seemed less so than the others, but he was so very small that we hesitated about taking him, and told him to come back the following week to see us. In the meantime we got no more desirable applicant and when he came back we took him. He was only slightly pale, but he suffered from headache. He lost one or two days out of every week on account of his health. Finally suspecting hook-worms, we had an examination of the stools made, and found the eggs. He was given treatment and at once began to improve. He staid with us about fifteen months, during which time he gained twenty-six pounds in weight, and nine inches in height. He is now a bright student in one of the Southern colleges. And this was, mind you, only three years ago. The other day he wrote to Dr. Porter, and among other things said:

"I shall never forget or cease to be grateful for what was done for me while I was office boy for you."

There are some things still unexplained, or unsatisfactorily explained, about hook-worm anemia and ground-itch. For instance, we do not know why so many children have ground-itch that do not show any symptoms of hook-worms; nor do we know why some children have hook-worms that have never had ground-itch, nor why it attacks some members of a family but not others. The authorities tell us that for all practical purposes ground-itch is to be regarded as the only source of the infection. It may be that ground-itch is only one of the sources. These are some of the problems waiting for solution. Be that as it may, we already know the most important things; we know that the trouble exists and how to correct it; we know how to recognize it; how to treat it; and these are, after all, the vital facts. Let those who are opening up new mines of information find out those other things for us, but let us apply to the uplifting of our own people what we already know.

Now, ladies and gentlemen, let us take our bearings. We have seen that thousands of our children are robbed of their birthright of a healthy childhood—dwarfed in body and mind, prematurely old, and still undeveloped. And we have seen that with appropriate treatment any of them, all of them, can be restored to health and to their natural vivacity and brought to the normal estate of manhood and womanhood. It only remains for us to do it. It is your problem and mine, my work and yours. The medical profession can't do it. The doctor can't go out and capture these little ones on the street and bring them in and treat them. He can treat them when they come, but he can't solicit them; it is unprofessional. The State Board of Health can't reach them. It can put up the sign—it can warn the public of the inevitable consequences of neglect, and it can point out the way in which physical salvation lies, but the final solution of the problem is with the great mass of the people of the State. When the public takes hold of it with the determination to rescue these little sufferers, to make useful citizens of what will otherwise be a burden on the State, then, and not till then, will this evil be eradicated. And the people will take hold as soon as they know about it. They would have done it long ago if they had known. A hundred years ago the greatest scourge to humanity was smallpox. A woman could look down at her baby in arms and in her heart of hearts know that the chances were one to three that it would die of smallpox before it reached the age of five. Every woman in Europe whose face was not pockmarked was considered beautiful. As soon as a way to prevent all this be-

came known the people took hold and now a case of smallpox in the community occasions no more alarm than a case of mumps.

Yellow fever, which hung like a pall over the southern United States, for one hundred and sixteen years is now, except in sanitary circles, hardly given a passing thought. As soon as the people see a way to correct these evils, they are promptly corrected. In case of hook-worm anemia it is a question of education, pure and simple. Teach the people what to do and they will do it. And who, if not the teachers, are to teach them? The boys and girls that you taught yesterday are the men and women of today. The boys and girls you teach today are the men and women of tomorrow. What you teach today will be known to-morrow, just as what you fail to teach today will be inscribed in letters of ignorance tomorrow. But you say it is not your place to enter into the public health problems of the day—you are public educators—that the medical profession should look after the health of the people, while you look after the education. And that is true. But education covers it all. The educators can't leave the morals to the ministry, for education covers morals—the educators can't leave the health to the physician for education covers health — the ministry only aids the teachers in developing morality—the physician only aids the teacher in developing sanitation. Why do you teach physiology, but to enable your pupils to live more healthful lives? And if it is worth the time of the teacher and of the pupil to spend several weeks in delving in bones and muscles with the vague hope that this information may some day be useful, how much more is it worth to see one of your little pupils laboring under this handicap of intestinal parasites—how much more is it worth, to point out to him, to his mother, his trouble and how it can be corrected.

And in doing this you forever ingratiate yourself into the parent heart. The child of today will bless your name, the man of tomorrow your memory, and the State will account you of her best citizens, and you can read again with a new meaning and with grateful humility those words spoken so long ago:

"Inasmuch as ye did it unto one of the least of these, ye did it unto me."

The following letter giving the dosage for uncinariasis was written in reply to an inquiry of a physician of the State:

JACKSONVILLE, FLA., January 16, 1909.

DEAR DOCTOR: I beg to acknowledge your favor of yesterday and to say in reply that two or three medicinal agents have been tried, and more or less

warmly advocated, but at the present time I believe that thymol is about the only agent used.

Dosage has not materially changed. The following, quoted from Stiles (Citation Bulletin N. C. State Board of Health), is about the dose usually employed:

Under 5 years old	7½ grains.
5 to 10 years old	15 grains.
10 to 15 years old	30 grains.
15 to 20 years old	45 grains.
20 to 60 years old	60 grains.
Above 60 years old	45 grains.

My experience would indicate this dosage is about correct.

Some children seem especially susceptible to the toxic effect of thymol and for this reason it is a good plan to give a somewhat smaller dose the first time.

It is best given in capsules when the patient experiences no difficulty in swallowing a capsule. When a capsule is not easily swallowed it can be given in syrup of acacia.

The dosage above refers to the amount given in twenty-four hours.

The routine procedure that I have about settled down to is as follows: Given a child, say twelve years old:

Physical examination indicating hook-worms:
Stools are examined microscopically for the ova.
Patient given one grain calomel on going to bed.
Next morning takes no breakfast.
Cup of tea or coffee permissible.
Ten grains thymol at 7:00 a. m.
Repeat at 8:00 a. m.
And again at 9:00 a. m.
At 11:00 a saline purge is given.
Alcohol and oil are interdicted.

Stools are saved after 7:00 a. m. (This is to demonstrate the worms to the satisfaction of the patient and family. When water is added to the vessel the worms settle to the bottom, and by repeatedly adding water and decanting it off, the worms can be washed relatively free from fecal matter.)

This course of treatment is repeated once a week (and the stools examined about once a month) till the eggs disappear.

At the beginning of treatment the patient is put on iron, say Basham's mixture. Iron is kept up till the case is dismissed.

With best wishes for the new year, and with lasting regards, I am,

Very truly yours,

HIRAM BYRD.

AUSTRALIA

Australia is usually spoken of as an island-continent. It is about two-thirds as large as the United States.

According to our mode of thinking, things Australian are mostly left-handed. They have winter when we have summer, and fall when we have spring. The southern portion is coldest, instead of the northern, the trees shed their bark instead of their leaves, the flowers are bright, but not highly scented, and the birds are lovely, but they have no song. It is a new part of this old world—more like the rest of it was perhaps ages ago; described by Captain Miller as "weird, melancholy."

Now England, with an eye open to the main chance, as soon as she lost the American colonies, set herself to redeem her lost fortunes by colonizing Australia. And having just learned what not to do, her colonies have prospered. And the hundred and thirty years have seen wonderful changes take place in that primitive world. Cities have sprung up almost while you wait. Melbourne, with a population equal to half the people of Florida, is in every sense a modern city.

But Australia, located in the tropics, with abundant rainfall in the more populated portions, and almost without frost, is an ideal place for the hookworm. And the hookworm is there.

Dr. McDonald, about a year ago, read a paper in London on "Hookworms in Australia." He told how he had discovered the infection, and confirmed his diagnosis by sending specimens to Melbourne and other places for laboratory examinations, and how he extended his observations until, link by link, he had picked up a chain of evidence that the infection is very serious, how he became imbued with the desire to stamp out the disease, and what steps he took.

Then the doctor discussed the disease itself, directing attention, first, to dirt-eating, of which he says:

"Among children the most pronounced symptom was the extraordinary appetite displayed for eating earth, not in a casual manner, but under the impulse of an irresistible craving. Babies would pick dirt from the seams of the floor, or from boots carelessly left uncleaned; older children frequently expressed a desire to suck stones, preferring such luxuries to sweets. Adults did not eat dirt, but developed abnormal delights in pickles, curries, and alcohol."

Then he pointed out the influence of the disease on the morals of the child.

"Children love to eat earth so much," he says, "that they disobey their parents' commands to refrain from indulgences of that sort. Disobedience thus forms the first color in the moral spectrum; cunning soon follows, and, according as punishment is administered or not, lying becomes a distinct symptom. The next stage of advancing immorality is a pronounced love of stealing. Children have told me that they enjoyed stolen food much more than that obtained in the usual manner.

"Later stages of degeneration are of the sexual order. Schoolmasters have consulted me as to the cause of general demoralization among school children. Thymol provided a key to the difficulty, with, I am glad to say, happy results. One boy who stole money from my house on two occasions, and confessed to further depredations, regained normal feelings of honesty and uprightness by treatment also with thymol."

Dr. McDonald thinks Australia has been infected through three distinct channels—by the South Sea Islanders, Arabians, and Italians.

"It is a comparatively easy matter to treat the individual," he says, "but how to stamp out the disease in communities is a problem we still have to face."

Dr. McDonald concludes:

"A splendid factor in my own efforts was the assistance rendered by the children, who really knew more of the disease than their elders would imagine. They gradually became quite learned in symptomatology, and entered enthusiastically into detection work. In this manner earliest symptoms were often noted in very young children, and information spread from one child to another. A child who has once passed through the pangs, sorrows, and miseries of an attack of ankylostomiasis develops keen sympathy with others so affected. There is an unwritten tragedy in their young lives never to be forgotten.

"It is much to a child to lose all desire for food and play, to grow weak and breathless, and to swell with ascitic fluid: to see other children pine and die; to sit in listless groups: and, in addition, often to suffer punishment for weakened memory; the only excitement of their lives to be of a morbid nature."

After the paper was read it was extensively discussed.

Dr. Louis Sambon spoke of the disease prevailing in certain mines of Italy, and other mines being free, and how examination had shown that the water in the infected mines was not salt, while in the free

mines it was, and the experiment was being tried to see whether salting the mines would destroy the infection.

Dr. Sandwith attributed the sexual aberration to the anemia produced by the worm, as such aberrations frequently follow anemia from other causes.

Dr. Leiper, in dealing with the question of earth-hunger, inquired whether the author had noticed any beneficial results from the habit. He had noticed that some of the lower animals infected with closely allied forms of hookworms showed a fondness for dirt. He had observed in Uganda that dirt-eating is quite common among elephants, and that they are infected to an enormous extent with hookworms. He pointed out that in East Africa dirt-eating is so prevalent, especially certain kinds of dirt, that it is bought and sold, and that measures had been enacted to prevent its sale. He wondered if this was the proper thing to do.

And so we see this is not a disease of the South, but a disease of the tropical and semi-tropical world. As we learn more and more of the distribution of the hookworm the conviction forces itself upon us that this parasite in potentiality encircles the earth in a zone corresponding, roughly, to the lower austral-life zone, and that its kindred species affect a great number of the lower animals, and that its extermination is a problem of the utmost importance, not only to the individual, but to the commonwealth.

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Florida Health Notes

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HON. E. M. HENDRY, President, Tampa, Fla. HON. HARRY FOZZARD, Jacksonville, Fla. HON. H. L. SIMPSON, M. D., Pensacola, Fla.

EDITED BY

JOSEPH Y. PORTER, M. D., Secretary and State Health Officer.
HIRAM BYRD, M. D., Assistant State Health Officer.

Offices:
Jacksonville, Dyal-Upchurch Building.
Key West, Room 10, Monroe County Court House.
Laboratory: Jacksonville, L'Engle Building.

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If you receive it without asking, it means that someone else has requested it for you.

When you change your address drop us a card.

When giving change of address, give both the old and the new.

Anything you want to know about the public health we will try to tell you.

Any information you want about diseases of domestic animals we will help you to get.

Vol. IV **April, 1909** **No. 4 (New Series)**

"The first duty of the statesman is the health of the people."—*Gladstone.*

MR. LEGISLATOR

Can the HEALTH NOTES have a word with you, promising not to take up more than two minutes of your time? Yes. Well, then, listen. The NOTES wishes to submit this proposition: That health is the greatest asset financially and commercially which either an individual or a community can possess. If this is true, and it is thought that no sensible person will dispute it, should it not be the privilege of those to whom the commonwealth of Florida entrusts the making of laws to seriously consider such recommendations which are made to them to accomplish this end, that the axiom may be fulfilled by system and orderly methods.

In another place in this issue, you can read, Mr. Legislator, what measures the State Board of Health considers needful and absolutely necessary to correct the defects which now exist in the present Health Statutes of Florida, and the NOTES speaking for the State Board of Health asks your careful, and it may well add, your prayerful reflection of the recommendations.

If you are a traveler about the State, Mr. Legislator, you can not fail to be impressed with the number of persons afflicted with cancer in its various forms, which you meet up with in your goings about. Do you know that it is strongly urged now in medical circles that cancer is a communicable disease; that is to say, that people living in the same house may contract cancer, one from another precisely as tuberculosis is transmitted, under negligent conditions, from the sick to the well? If this is so—and there are doubtless instances fresh in your mind which seemingly bear out this deduction—then is it not the duty of the commonwealth, through her representatives in the Legislature, to provide against this frightful destruction of life; terrible, because of a loss to the State in useful citizens, and horrible in the suffering which follows a lingering death; and to empower the State Board of Health by necessary legislation to pursue investigations which may lead to the discovery of a preventive and also a curative specific against this disease? Think about this, Mr. Legislator.

Another topic which the NOTES wishes you to think over is, tuberculosis of the lungs. Consumption is a preventable disease; it is also a communicable disease, and under hygienic conditions it is curable.

The State of Florida, in its benevolent exercise of charity and philanthropy, provides a place for the segregation and treatment of the indigent insane of its citizens. Why does it do this? Let the NOTES tell you, Mr. Legislator. Because it is dangerous to life for a person of an unsound mind to be at large and in unrestrained communication with unsuspecting and trusting citizens. Again, experience has taught that persons so afflicted can receive better and more effective care when secluded. Indigent persons can not provide for themselves, and for this reason the State assumes the charge and responsibility. That is why the commonwealths provide institutions of this kind.

Consumption kills more people each year than equals the number of those who become insane, and as a commercial loss, which is based on statistics, because it is not possible to put a money value on human life, the State of Florida loses $20,000,000 each year through the ravages of consumption among her citizens. Is it not worth the effort to try and stop this human slaughter in Florida? This question is squarely before you, Mr. Legislator, and on your decision within the next sixty days depends, altogether, whether the State Board of Health is to be permitted to afford relief to the indigent consumptives of the State, and to give them an opportunity to regain their health. In retrospect of this subject, Mr. Legislator, can you not recall a number

of consumptives of youthful age—under thirty—who were either clerks depending upon their daily wage; or a seamstress relying solely upon the sewing machine for support? Oftentimes—more frequent than otherwise—more than one mouth has to be fed and body provided for with garments, from the physical exertions of these diseased struggling individuals. Talk to these people about going west, or to Arizona or to New Mexico! What nonsense. What folly. Where is the money to come from for the change? No, unless assisted by the State or other charity, this class of sufferers must go on working day by day, at the desk and at the sewing machine or other manual work, shortening their own days and emperiling at the same time, from contact with them, the lives of those dearest who are depending on their struggles, until bedridden and impoverished — the little savings gone—they die and leave a family to want or, more dreadful yet, infected with destructive agents of the fatal malady, which have killed either a father or mother.

This pen picture, Mr. Legislator, is not overdrawn. It is seen almost daily by those whose business takes them in contact with consumptives. Will you willingly deny indigent consumptives of our own citizens assistance in regaining their health?

A site for an "outdoor sanitarium" with a few buildings has already been offered as a gift to the State Board of Health, provided the State will permit the plant to be enlarged so as to care for the State's indigent consumptives; and by indigent is meant that class who when they stop work cut off also their means of living. This is the class of patients with consumption which the State Board of Health wishes to help back to health and physical endurance, so as to again take up the battle of life in behalf of themselves and their families. Mr. Legislator, allow the State Board of Health to accept this gift, and further give the Board a free hand to carry out its plans of an "Outdoor Tuberculosis Sanitarium" under safe and economical methods.

Just one word more, Mr. Legislator, and the NOTES will stop. Have you children? Do you live in the southern and sandy portion of the State. Perhaps you may not have—the NOTES hopes sincerely that you have not—but your neighbor may, a child or children, who are puny and sickly. They were healthy looking babies at birth, and probably continued to be plump and well until they commenced to walk. Then they had ground-itch badly, and soon afterwards began to be sallow in complexion, of protruding abdomen, and dull mentally. Under the impression that it was malaria which caused this disturbance, the child has enough quinine administered to kill out the malarial parasite for a mile around, with other nauseous drugs

and remedies. Yet the child did not improve in health and instead of being a bright youngster for his or her age, the stature and mental growth is scarcely that of an infant. By and by a State Board of Health man comes around and modestly suggests—for he would not offend a brother practitioner for the world—that perhaps this child may have "hookworms" and says if a specimen of intestinal contents is sent to the laboratory at Jacksonville, the examination will be made free of any charge to the parent. The advice is accepted and sure enough the eggs of the "worm" are found and under appropriate treatment are gotten rid of and in a surprisingly short time the pale-faced, bloodless-appearing youngster becomes a florid picture of perfect health. Here again is a picture that is not overdrawn, and if anything is not painted with sufficient force, for it is marvelous how soon children affected with "hookworm" disease regain strength and vitality, both physical and mental, when these parasites are effectually expelled.

Does not your interest in public matters of the State extend, Mr. Legislator, to defending and preserving the health of the youth of the land? Concede and empower the State Board of Health to supervise and exercise authority over any and everything which either directly or indirectly affects the health of the citizen and this "hookworm" trouble of which the NOTES speaks will be speedily eradicated, and Florida will have a generation of healthy boys and girls rapidly developing into sturdy and intelligent men and women.

Remember the divine injunction—which is as much of a warning as a promise—"for as much as ye have done it unto one of the least of these, ye have done it unto me."

Think over these things, Mr. Legislator. The State Board of Health asks for nothing unreasonable from you, nor for any legislation which the courts can not restrain, if improperly or unwarrantably exercised.

The State Board of Health wishes to be of service to the people, will you also help?

A BILL

To Be Entitled

AN ACT TO AUTHORIZE THE STATE BOARD OF HEALTH TO ADOPT, PROMULGATE AND ENFORCE RULES AND REGULATIONS FOR THE BETTERMENT AND PROTECTION OF THE PUBLIC HEALTH OF THE STATE OF FLORIDA.

Be it enacted by the Legislature of the State of Florida:

Section 1. That the State Board of Health shall have the power to make, adopt, promulgate, and enforce rules and regulations from

time to time requiring and providing for the thorough sanitation and disinfection of all passenger cars, sleeping cars, steamboats, and other vehicles of transportation in this State, and also of all convict camps, penitentiaries, jails, factories, hotels, schools and other places used by or open to the public; to provide for the treatment, segregation and disinfection of animals having communicable, contagious or infectious diseases; to provide for the care, treatment, segregation and isolation of persons having, or suspected of having any communicable, contagious or infectious disease; to regulate the method of disposition of garbage or sewage and any other refuse matter in or near any incorporated city or town or unincorporated town or village of this State; to provide for the thorough investigation and study of the causes of all diseases, epidemics, and otherwise, in this State, and the means for prevention of contagion and disease and the publication and distribution of such information as may contribute to the preservation of the public health and the prevention of diseases; to supervise and regulate municipal and county sanitation, not provided for by general rules and regulations for the purpose of suppressing nuisances and communicable, contagious and infectious diseases and other dangers to the public life and health; Provided, however, That nothing herein contained shall be construed as in any wise limiting any duty, power, or powers, now possessed by or heretofore granted to the said State Board of Health by the Statutes of this State, or as affecting, modifying or repealing any rule or regulation heretofore adopted by said Board.

Sec. 2. That any person who shall violate, disobey, refuse, omit or neglect to comply with any rule of said State Board of Health made by it in pursuance of this Act shall be guilty of a misdemeanor, and upon conviction thereof shall be punished in the manner provided by law for violation of the rules of said Board.

Sec. 3. This Act shall take effect immediately upon its approval by the Governor.

A BILL

To Be Entitled

AN ACT TO AUTHORIZE THE STATE BOARD OF HEALTH TO ACQUIRE AND MAINTAIN A SANITARIUM FOR THE TREATMENT OF TUBERCULOSIS; TO MAKE AND ENFORCE RULES REGARDING THE ADMINISTRATION OF SUCH SANITARIUM, AND TO PROVIDE METHODS FOR CONDUCTING THE SAME.

Be it enacted by the Legislature of the State of Florida:

Section 1. That the State Board of Health is hereby authorized

to establish, conduct and maintain a Sanitorium for the treatment of persons suffering from tuberculosis, and for that purpose to receive, hold and use gifts of lands, money and other kinds of property. That said State Board of Health is hereby authorized to care for and treat without charge indigent persons suffering from tuberculosis. That patients financially able shall be required to pay such charges as said Board may from time to time establish for treatment in such Sanitorium.

Sec. 2. That said State Board of Health shall make, promulgate, and enforce rules governing the management and conduct of such Sanitorium, and the care and control of inmates thereof, violations of which rules shall be punishable in like manner as violations of other rules of said Board are now punished by law. That said Board may appoint physicians, nurses and other employees necessary for the maintenance, control and proper administration of said Sanitorium.

Sec. 3. That the cost and expenses of establishing and maintaining said Sanitorium shall be paid out of the funds of the said State Board of Health, now provided for by law, and from the funds accruing from patients not indigent, who may be treated as provided for in this Act.

Sec. 4. This Act shall take effect from the date of its approval by the Governor, and all laws inconsistent herewith are hereby repealed.

AN ACT

To Be Entitled

AN ACT TO AUTHORIZE THE STATE BOARD OF HEALTH OF FLORIDA TO EMPLOY A SANITARY ENGINEER WHENEVER THE SAID BOARD MAY CONSIDER THE NECESSITIES OF SANITATION IN AND ABOUT THE STATE MAY SO REQUIRE AND TO FURTHER PROVIDE FOR HIS COMPENSATION.

Be it enacted by the Legislature of the State of Florida:

Section 1. That the State Board of Health of Florida be and is hereby authorized to employ or engage the services of a Sanitary Engineer, whose expert knowledge in the subject shall be determined by the State Health Officer, whenever in the opinion of the State Health Officer the necessities of sanitation in and about the State may require an expert opinion and decision in regard to construction of sewers, drainage of a sanitary character, the disposal of sewage and domestic wastes, or the institution of potable water supply for any of the cities or towns of the State of Florida.

Sec. 2. That the Sanitary Engineer as provided for by Section 1 of this Act shall only be employed at such times and such periods as in the judgment of the State Health Officer his expert services may be required.

Sec. 3. That the compensation for services of the Sanitary Engineer provided for in Section 1 and 2 of this Act shall be fixed by the State Health Officer with the approval of the President of the State Board of Health.

Sec. 4. That all laws or parts of laws in conflict with any of the provisions of this Act are hereby repealed.

Sec. 5. That this Act shall take effect on the approval by the Governor.

JUST SO.

Time either fulfills or rejects predictions, and the NOTES wishes to call attention to this fact; that two years ago the State Board of Health asked the Legislature of Florida, which was then in session to give its approval by enactment, to a recommendation made by the State Board of Health, for securing the services of a Sanitary Engineer to whom questions relating to sewerage construction, water-works and the disposal of domestic wastes in general, of those cities and towns in the State contemplating such, could be referred under the direction of the State Board of Health, in order that there might not be a waste of money by improper construction in the first place and secondly that the health of a community might not be seriously injured or impaired by such faulty construction. The Legislature of 1907 "turned down" the request, which it was proposed should be offered without charge to any city or town asking for it. Now read what "Short Talks" in *Times-Union* of March 13th says:

"Jasper is having the experience of other towns that think it cheaper to dispense with engineering skill in a sewer which was laid without reference to grade, or to the cementing of its joints, or to provision for flushing it out, and which the *News* denounces as the present cause of much illness there and a future menace to Jasper's health. An epidemic costs more than the services of an engineer—many times over."

If the State Board of Health had been given authority to employ a Sanitary Engineer of competent skill and experience in work of this nature, and if the Legislature had further provided that no construction of this kind should be undertaken without the consent and approval of the State Board of Health, would a condition of affairs such as the above clipping states ever have existed? The NOTES thinks not.

JUSTLY SO.

Every gun has two ends. So has every argument, and besides there's the kick.

The argument is, that the Constitutional Convention of 1885 submitted to the people an Article providing for a State Board of Health which should have supervision over the health of the State, and this provision was ratified at a subsequent general election by a vote of the people. In 1889 the Legislature obeyed the mandates of the Constitution by constituting a State Board of Health. The people therefore have been led to believe that this division of State government is charged specifically with a duty, which they construe to be an important feature of State administration, for a maintenance of health among its citizens is the highest obligation to the people which good citizenship can demand.

But when request after request is made to the State Board of Health to correct this or that condition which if not abated may contribute to ill health as well as physical discomfort of the people, and the answer is returned that the Board is legally advised that it has no authority to act in the premises, then comes the kick. And the NOTES does not wonder that the people are disgruntled.

THANK YOU.

It is very pleasing and gratifying to the State Board of Health to have its efforts in behalf of the people of Florida so flatteringly commended by the State's great daily. "Short Talks" on March 4th says, in the *Times-Union*:

"The appeal of the State Board of Health made through its organ, FLORIDA HEALTH NOTES, is one which deserves the attention of the people of the State. The *Times-Union* recently reproduced it. The Board has done the State an immeasurable amount of good in stamping out yellow fever and in partly eradicating other forms of malarious disease until Florida is no longer regarded as an unhealthy State. It has never been adequately supported by the Legislature in its unselfish work for the general good and all it asks is that the Legislature enable it to carry out its plans freely. Every Floridian should second the efforts of the Board by laboring with Representatives and Senators to induce a more friendly attitude toward the guardians of the public health."

Will the Press of the State second the recommendations made by the State Board of Health in its Annual Report, which was published in the *Times-Union* of February 14th?

Thanks to the *Times-Union*. It costs the State Board of Health about three quarters of a cent, including postage, to publish and distribute this pamphlet, or about nine cents a year to each person who receives it. It is sent gratis to any citizen of Florida. We endeavor to make it worth while.

"FLORIDA HEALTH NOTES for March is devoted to the hookworm disease, ankylostomiasis. This disease, imported years ago from the Old World, is said to be fearfully prevalent among the young, especially in sandy districts. It begins generally as "ground-itch," but when the parasite has worked its way through the skin and into the intestines, the resultant anema and stunted growth are often attributed, even by physicians, to malaria. The child becomes "puny," weak, dull, its appetite morbid and many cases end in death, sometimes within a few weeks. Parents with young children would do well to procure a copy of this number, if not already subscribers. In fact, any number of this official bulletin of the State Board of Health may give information worth many times the half-dollar a year's subscription costs."—*Florida Times-Union.*

CARRIER CASES.

Last year there was quite an epidemic of cholera in Manila. Dr. A. J. McLaughlin was Acting Director of Health at that time.

They had a few cases along throughout the year, but in September the climax was reached, there being some 700 cases to deal with in one month.

Dr. McLaughlin discussing the things that go to make it difficult to control the spread of cholera has the following to say of "carrier cases":

"Two factors, more than any others, make difficult the suppression of cholera in Manila; first, the existence of bacilli carriers and bad closet facilities or none at all; second, failure to find cases early.

"The presence of bacilli carriers makes necessary the safe disposal or disinfection of dejections of the entire population.

"The experience of this Bureau in the recent epidemic points to the fact that the most important role in the transmission of cholera is played by the bacilli carrier.

"If a bacilli carrier be a person of cleanly habits, and if he be in possession and makes use of proper closet facilities, he is practically harmless. But on the other hand, a bacilli carrier of filthy habits, who has no closet facilities, or refuses to avail himself of the public closets furnished him, is the greatest menace to the public health.

which can possibly exist, so far as cholera is concerned. The demonstration of the fact that over seven per cent. of apparently healthy individuals in the Meisic and Tondo districts were bacilli carriers, coupled with the insanitary closets of Meisic district and the absence of or failure to use public closets in the Nipa districts, will go far toward explaining the dissemination of cholera this year.

"Every effort was made to discover promptly light cases of the disease and bacilli carriers. When a case of cholera was found, the house was quarantined until the removal of the patient and until the disinfection had been completed. The stools of the other inmates were taken for the purpose of discovering bacilli carriers. These, if found, were sent to the San Lazaro Hospital, and there detained until the vibrios disappeared from their stools. A house-to-house inspection was made of a large area, having the infected house for a center. This was done daily for five days.

"The following table shows the number of apparently healthy persons examined for cholera bacilli, and how many were really carrying the bacilli:

BILIBID PRISON.

Number of persons examined	264
Number found positive	17
Percentage found positive	6.44

CITY OF MANILA (EXCLUSIVE OF ALL HOSPITALS AND BILIBID PRISON).

Number of persons examined	376
Number found positive	27
Number found negative, but containing vibrios other than cholera	46
Percentage found positive	7.18
Percentage found negative but containing other vibrios than cholera	12.23

"Even with perfect daily disinfection of closets and places soiled with fecal matter, all chance of infection from bacilli carriers is not cut off, because a bacilli carrier with his soiled fingers may infect the food or drink of other persons.

"The prohibition of certain native foods, fruits and vegetables was necessary, not only because these substances were often infected or dangerous of themselves, but they were also the substances carelessly handled by dirty people of dirty habits, many of whom were undoubtedly bacilli carriers, and they were the substances eaten without sterilization by boiling or cooking after such handling.

"It has been demonstrated this year that the perennial outbreaks of cholera in Bilibid Prison are probably due to bacilli carriers. Upon

the appearance of cholera in Bilibid Prison this year, the undersigned gave orders that the stools be examined for cholera of those who had anything to do with the preparation or handling of food or drink. Two hundred and sixty-four samples were taken and of this number of apparently healthy persons, seventeen were carrying the cholera organisms in their intestines. To find out and isolate all the other bacilli carriers involved an amount of work in stool examinations alone which would have been impossible for the already overtaxed bacteriologists.

"Results were obtained by an order from the undersigned to compel washing of the hands in disinfecting solution after stool and before eating. This order was enforced and cases ceased to appear, although there were doubtless many bacilli carriers in the 3,000 prisoners whose stools had not been examined."

In its manner of being spread cholera is like typhoid fever. They both have their mild unrecognized cases and carrier cases, they are both spread by flies, both capable of being spread by water.

The most effective means of combating them both is by proper methods of sewage disposal.

The lesson is that a few open closets that can be visited by flies are a source of danger to the community, for sooner or later some of them will become typhoid infected and the flies will bear the infection to the dining-room and spread the disease.

The greater the number of open closets in the community the greater the danger. Hence the need of every city putting in sewerage systems as early as possible. Hence the need of a sanitary engineer engaged by the State to help the several cities solve their local problems.

THE WAR AGAINST DISEASE.

Jacksonville must keep herself sanitarily clean—this means that she must destroy the dangers lurking in her garbage and refuse. To keep this material off the streets is but to pay eye-worship to the cause of health; to cremate it imperfectly is to deceive the public and endanger the health of the people. It is strictly within limits to say that carelessness or neglect in this sphere of public responsibility is official murder. A city that professes to be a health resort can not afford to neglect the precautions prescribed by the best authorities and by experience. Anything less than the best is but a pretense and a sham.

The cremation formerly practiced here fulfills none of the sanitary conditions it assumed to care for—it would be little less than a crime

to put money in another plant of the same type and character as experience has fully demonstrated, because the plant can not maintain the heat needed to destroy the dangerous elements.

Do we understand what we want? It is no disparagement of the wisdom or the fitness of our officials to say that we do not. The members of the city government are but sensible laymen who are good citizens—the father who trusts to main strength and awkwardness in prescribing medicine for his sick child is as wise as the official who presumes to say what type of plant or system of disinfection should be trusted to save us from the dangers of accumulated filth in a great city. Let the medicine wait till the doctor can be called in, but send a message for skilled help immediately.

Practically all the great cities of Europe dispose of garbage without waste or danger—they have learned to do so after years of experience that cost money and health and life. Why not profit by this wealth of wisdom? Many American cities are now immune to this danger—why not inquire by what steps they have climbed to safety? Inquiry should precede the expenditure of public funds—those clothed with responsibility owe to the community the duty of informing themselves. Let Jacksonville again furnish a model to her sister towns—get the best, which alone is safe and is worth the money we must pay. Look at the dump heaps and examine the work of the cremator—we have to live here through the summer, and our character is judged by results. See that all possible precautions are taken against disease. —*Florida Times-Union.*

Well, does that help you to see any reason why the State should engage the services of a Sanitary Engineer — a man whose life is dedicated to problems of this and kindred kinds, and whose knowledge is expert, and whose opinions are not biased by having something to sell? Why not impose that duty upon the State Board of Health? Then this man's services could be had in Jacksonville or Tampa, or Pensacola, or wherever needed; they could be had for installation of cremators, water-works, sewerage plants, drainage problems, or whatever needed. Just to think of an area here of nearly sixty thousand square miles, and a population of three quarters of a million, and yet within its bounds no provision made for expert sanitary engineering.

Putting the thing squarely upon a business basis, is it good business? Is it good business to allow first one city and then another to expend vast sums of money for sanitary improvements to find too often that much of it has been a failure? Is it good business to leave every town in the State that wants to put in modern improvements to feel in the dark for expert sanitary advice and when they have found

it to not know whether it is expert or not and then to have to pay an enormous sum for such service, when the State could furnish it for a trifle and save the city that expense?

Pensacola, for instance, when putting down sewers and sidewalks, had to send to Delaware for a consulting engineer.

Read the following from the *Times-Union* of March 18th:

"PENSACOLA, March 17.—T. Chalkley Hatton, consulting engineer of the city, who has charge of all of the sewerage and paving work to be done and which has been done during the past three years, reached the city this morning from Wilmington, Del., his visit being for the purpose of making an inspection of the sewerage system, which has been under construction for the past three years and which has now been completed by the contractor and is ready to be turned over to the city, provided the engineer finds that the contractor has done the work according to the contract. The work was practically completed three months ago, but at that time the engineer, who has his assistants on the ground, found that a number of defects existed and caused some portions of the work to be torn up and rebuilt, which caused considerable delay. At this time Mr. Hutton with his assistants will go over the work and if it is found satisfactory a recommendation will be made that the system be accepted."

Now if this expert knowledge were engaged by the State, it could be used at Pensacola, Jacksonville, Tampa, Palatka, and any other place in the State where problems of this kind are before the people. Now as a business proposition, is this good business?

As a sanitary proposition, it behooves every growing town to install water-works and proper methods of sewage disposal as soon as possible; for it has been shown the larger the aggregation of people living in a given community, the higher the death rate from typhoid fever, up to the point of installation of sewerage plants, and from this on the mortality from typhoid drops, and the larger the aggregation of people above that point, the smaller the death rate from typhoid fever, for in the larger cities the sewage is properly disposed of. It should be the ambition therefore of every growing town that would have a low death rate from typhoid fever to install sewerage systems as soon as possible. The engagement of a sanitary engineer by the State would make it possible sooner, for it would cut off a considerable item of the expense and that, after all, is the chief reason, in fact the only reason, why the prosperous cities of three or four thousand people do not have modern improvements. In 1904 there was an epidemic of typhoid fever in Bartow—some 250 cases with eleven

deaths—all due to the fact that the sewage was improperly disposed of. And the same conditions prevail there today. Not because Bartow is dilatory about it, but because she needs the guiding hand of expert knowledge to help her. And Bartow is no exception in this State. A dozen towns of her size could be mentioned, any one of which could easily have as grave an epidemic of typhoid fever at any time, and we might add that it is the choice of fickle chance that they don't. And while Bartow has had this experience, and most of the other places have not had so great numbers of typhoid, yet they are all just as easy prey to it as Bartow, and all in as great danger. The question of safety lies in the proper disposal of sewage. Even in the largest center of population in the State, Jacksonville, there are portions that do not have the sewage properly disposed of and those sections have as high a death rate from typhoid fever as the cities that do not have sewerage systems.

Now as a sanitary proposition, is it worth while for the State to engage the services of an expert sanitary engineer?

SMALLPOX IN MINNESOTA.

1907 COMPARED WITH 1908.

1907 — With the regulations requiring strict quarantine of all inmates of infected homes.		1908 — With modified regulations requiring quarantine of only the sick and unvaccinated inmates of infected homes.	
Week ending Oct. 7, 1907	11 cases	Week ending Oct. 5, 1908	4 cases
Week ending Oct. 14, 1907	6 cases	Week ending Oct. 12, 1908	8 cases
Week ending Oct. 21, 1907	45 cases	Week ending Oct. 19, 1908	8 cases
Week ending Oct. 28, 1907	59 cases	Week ending Oct. 26, 1908	14 cases
Week ending Nov. 4, 1907	59 cases	Week ending Nov. 2, 1908	11 cases
Week ending Nov. 11, 1907	92 cases	Week ending Nov. 9, 1908	17 cases
Week ending Nov. 18, 1907	43 cases	Week ending Nov. 16, 1908	18 cases
Week ending Nov. 25, 1907	57 cases	Week ending Nov. 23, 1908	25 cases
Week ending Dec. 2, 1907	62 cases	Week ending Dec. 1, 1908	25 cases
Week ending Dec. 9, 1907	81 cases	Week ending Dec. 7, 1908	67 cases
Week ending Dec. 16, 1907	152 cases	Week ending Dec. 14, 1908	51 cases
Week ending Dec. 23, 1907	170 cases	Week ending Dec. 21, 1908	82 cases
Week ending Dec. 30, 1907	259 cases	Week ending Dec. 28, 1908	66 cases
Week ending Jan. 6, 1908	217 cases	Week ending Jan. 4, 1909	33 cases
Week ending Jan. 13, 1908	222 cases	Week ending Jan. 11, 1909	44 cases
Total	1535 cases	Total	473 cases

So much for quarantine. It is all right when you haven't anything better. But Minnesota has found something better. She has found that if she doesn't quarantine smallpox then it is up to the people

to get protection themselves and they fall over one another getting vaccinated. See the result? Not a third as much smallpox as they used to have.

We found this out a long time ago. There has hardly been a guard employed to quarantine smallpox in Florida in six years. We give absolute protection to every one that wants it and most of them want it now. The result with us is that in 1903 there were 664 cases of smallpox in the State; in 1908 there were 55 cases.

The NOTES is hardly in favor of compulsory vaccination any more. Teach the people what to do and they will do it. Show them the efficacy and harmlessness of vaccination and they will get vaccinated. Show them the value of diphtheria antitoxin and they will use antitoxin. Let them know how to control the hookworm situation and it will be controlled. Convince them that tuberculosis can in a measure be prevented and they will set themselves to prevent it. When the people were shown that yellow fever is transmitted by mosquitoes and that it could be managed by managing the mosquito, they all turned in and pushed the crusade to a successful termination. When the public knows a little more about health and disease the big stick will be forgotten, smallpox will be universally prevented by vaccination, typhoid fever will be prevented by properly disposing of sewage, looking after milk and water and the control of flies; tuberculosis will be prevented by segregation of the sick and other correlated methods—in short sickness will be prevented because the people so will it.

COMBATING CONSUMPTION.

A Timely Sermon by Rev. C. C. Carroll at the Baptist Church.

At the Baptist Church Sunday Dr. Carroll read the notice of the meeting next Friday called by the Tuberculosis Commission under the auspices of the State Board of Health. Also a communication from Governor Gilchrist endorsing the work and urging the people to give the subject their earnest attention.

The pastor took for his text the four seals and the four horses mentioned in Revelations 6: 1-8, but more especially the fourth seal and Death on the Pale Horse, and his theme was a discussion of health and the law of its preservation. He said that death was ever present in some guise—accident, wild beasts, snake-bites, etc., which were often unavoidable as far as human power or human forethought were concerned, but when it came to disease it was in a great measure the result of ignorance and neglect, and it was to educate the people along the lines of prevention that the commission was ordered. He

gave the number of deaths in this country each year from the ravages of the white plague at 100,000, and the actual cost to the country in money at one billion dollars; said that putting the loss in dollars and cents seemed to be the only way of getting some people to appreciate it. That the people of Pittsburg, Pa., were perfectly indifferent to the ravages of typhoid fever till some one called the attention of the community to the actual money loss in a single case and then the people awoke to a knowledge of its serious nature and stamped it out. So with the so-called white plague. When the people begin to realize the fearful cost to the country, they begin to take measures to check—if not conquer it. He said the salvation of the soul was the betterment of the body and the idea of the body being raised at the resurrection was a perfect body—no pain, disease or death.

He spoke of the ignorance of the middle ages with no knowledge of the germ theory or hygiene—of the sad story that one-half of the deaths from tuberculosis occurred between the ages of fifteen and twenty-four, and that life for the victim is practically over when the dread disease takes hold of them, though some make so brave a fight against it that they keep away the "Pale Horse" for years, instancing Stevenson, the novelist, and the sweet poet Lanier, of Georgia. He said that if the one hundredth part of the money spent on fashions, functions and other frivolity was used in its prevention then the white plague would soon be a thing of the past, for man as his brother's keeper in health as well as in morals could seize the Pale Horse by the bridle, force him back on his haunches and bid him stop.—*Ocala Banner.*

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HON. E. M. HENDRY, President, Tampa, Fla.
HON. HARRY FOZZARD, Jacksonville, Fla.
HON. H. L. SIMPSON, M. D., Pensacola, Fla.

EDITED BY

JOSEPH Y. PORTER, M. D., Secretary and State Health Officer.
HIRAM BYRD, M. D., Assistant State Health Officer.

Offices:
Jacksonville, Dyal-Upchurch Building.
Key West, Room 10, Monroe County Court House.
Laboratory: Jacksonville, L'Engle Building.

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If you receive it without asking, it means that someone else has requested it for you.

When you change your address drop us a card.

When giving change of address, give both the old and the new.

Anything you want to know about the public health we will try to tell you.

Any information you want about diseases of domestic animals we will help you to get.

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TO OUR FRIENDS—THE PEOPLE

In the April number the HEALTH NOTES made an earnest appeal to the Legislators, now convened in the session of 1909, to approve of recommendations made by the State Board of Health for many years past, and which, by the way, have the sanction of Governor Gilchrist, for a more efficient and therefore a more satisfactory administration of measures advised for and calculated to better protect the health and lives of the people of Florida. No additional appropriation of funds or increased levy of taxation was asked for or even suggested. Only a request that the State Board of Health might be accorded by statutory enactment the privilege of assisting the citizens of the State to added comfort in living, by guarding the innocent from the acts of the indifferent and careless, and saving the people from their own oftentimes pernicious deeds; preventing the committing of many unhealthful things, which apparently of little moment at the time nevertheless grow into dangerous influence upon the commonwealth or individual communities.

The State Board of Health is not seeking for arbitrary power nor for enactments which might oppress the citizen of whatsoever degree or standing in the body politic, but is desirous of doing merely those things which are apparently implied in the Constitution of the State as properly pertaining to the duties and obligations of a State Board of Health. If the NOTES, speaking for the State Board of Health, has not heretofore made this viewpoint clear, let it be so understood now; and that there may be no future misunderstanding on this subject, the NOTES wishes to make it plain and unmistakable in meaning that the policy of the State Board of Health *is* and *has always been* since its organization, now some twenty years, to interfere with the movements of the citizen and his habits as little as possible and never to intervene the authority of the Board except for the protection of life and health and where experience and special training in such matters imperatively demanded the exercise and interposition of its influence.

The upper branch of the Legislature—the Senate—has cordially sanctioned the efforts of the State Board of Health to secure a better system of health government for the State, and has passed the measures which were recommended in the past two Annual Reports of the State Board of Health. But so far the NOTES has not discovered that the measures have advanced beyond the second reading in the House of Representatives; at least the record of legislative proceedings of the House does not show any further action on these matters. Therefore, as scarcely more than four weeks remains before the Legislature of 1909 will have passed into history; and as is usual towards the last days of the session there is a mad scramble for recognition for personal and private measures, the NOTES determines that a final effort shall be made in this, the May publication, to arouse interest in the necessities of health legislation by the present Legislature, by appealing direct to the *PEOPLE,* whom the NOTES not only feels, but from numerous correspondents throughout the State *KNOWS,* to be in sympathy with every movement inaugurated by the State Board of Health for their health betterment and protection. The people should, with potent emphasis, instruct their Representatives, in no uncertain terms or language, that they want—

Their children protected against the anemia of body and mind consequent upon hookworm infection;

Their indigent consumptives segregated, cared for comfortably, and given an opportunity to regain health and civic usefulness;

Their citizens saved from contracting loathsome disease while in public conveyances;

Their "stock" protected against infection from importation of diseased animals into the State, and segregation and isolation of those so found;

That persons suffering with contagious or infectious diseases, whether in sporadic or epidemic form of prevalence, shall be isolated, segregated and cared for during such sickness, that it may not be communicated to others;

That a Sanitary Engineer shall be employed by the State Board of Health to aid and assist all "poor and needy" communities and all others which may not be in a destitute condition of funds, to arrive at the proper disposition of sewage and domestic wastes and any other refuse matter which usually accumulates in and about towns and unincorporated villages, and which, if uncared for, gives rise to much discomfort to individual citizens as well as to the community in general;

That the State Board of Health may be allowed to provide for a closer and more detailed investigation into cases of special diseases, and to acquire accommodations for the purpose; and finally,

That, as no assemblage of men, however wise or intelligent, can foresee the happenings of natural life and living from year to year, neither can any Legislature provide definite, specific and detailed legislation against all the evils of defective and unsanitary acts on the part of the people, which may occur from ignorance, wilful neglect, or determined opposition to well-meaning advice, prompted by the best and purest motives on the part of the Health authorities;

Therefore, the State Board of Health should have delegated the right to make rules and regulations from time to time, which will care for such occurrences which are harmful and injurious to health and which could not be anticipated by enactment at previous legislative sessions.

Where is the unreasonableness of this request? Where can lie the sinister motive, which has been hinted at, that prompts this suggestion? Are not the courts of the State always open to the citizen for restraining measures when he feels that he is unjustly imposed upon by unreasonable, exacting or tyrannical proscription by individuals or by officials?

This is the last opportunity which the HEALTH NOTES will have to speak on this subject before the Legislature of 1909 shall have

adjourned, and to the *PEOPLE OF FLORIDA* this appeal is now made in the interest of themselves and their loved ones, that they do not permit the necessities of health legislation, which have been recommended, to die on the calendar of the House as was done at the session of 1907. Insist that your Representatives—those whom you have sent to Tallahassee to deliberate for your health and thereby your commercial prosperity—shall go on record either for or against an effective and efficient health government for Florida.

"Love thy neighbor as thyself" is but a strain of the angelic song with which the choristers of Heaven filled the hearts of the humble shepherds of the hillside of Judea, as *"Peace, good will towards men"* echoed from the lowly manger-cradle in Bethlehem. Through the reverberating corridors of time, the question has been asked and is being constantly asked: *"Who is my neighbor?* Can it be that the eyes of the people are so blinded by selfish ambitions and propositions that it can not be seen that *the neighbor* and one's duty to him demands that the commonwealth shall afford every citizen of Florida means and manner of healthful living and shall protect him and his household from hurtful acts of ignorant living on his part as well by others, and shall assist him and his family to regain health and vigor when unfortunately beset with a wasting malady?

The NOTES has now done its duty, or feels that it has, towards its friends—the people of Florida: with them it rests the equity of its pleadings.

April 30, 1909.

OUR POSITION

A "wireless" from the legislative halls at Tallahassee tells the NOTES that the Christian Scientists and the *Tallahassee Sun* are making a fierce attack upon Senate Bill No. 62, introduced by Senator Harris, of Monroe and Lee, which in one of its provisions authorizes the State Board of Health to "segregate, isolate and treat persons with infectious and contagious diseases," the objection being mainly directed against the term *TREATMENT*. Whereupon the State Health Officer wired Mr. Harris to "cut out" the words *treat and treatment* wherever occurring in the bill and explained to him subsequently by letter that really these terms had no place in a public-health measure, and had been overlooked, for the State Board of Health of Florida, like all Boards of Health, is a *PROPHYLACTIC* and not a *THERAPEUTIC* organization, designed to prevent and suppress disease conditions and not to medicate the sick. The bill originally was drawn by a friend of the board of known legal ability, who undoubtedly reasoned that if the State was charitably to care and pay for the isolation of persons with smallpox, cholera and yellow fever, that the State should also provide treatment, by adding to an executive duty in imposing a professional obligation.

Neither the State Health Officer nor his assistants have ever forced their professional advice in the way of therapeutic attention upon any citizen of Florida. Whenever asked for, information and instruction have been cheerfully and promptly given, but in the great majority of instances it has been suggested, after the laboratory has determined the character of specimens sent for examination, that the family medical attendant should be consulted for treatment. The hookworm trouble and the care of the consumptive are fitting illustrations of the policy of the board and of the State Health Officer in this particular.

It certainly matters nothing, and what does the State Health Officer care, whether hookworms are gotten rid of by praying or rubbing, or tuberculosis is cured by "mental healing" or "absent treatment," so long as the cure is effected, and the people will wake up to the full realization that physical and mental anemia of the children of the State, and especially of those living in the sandy districts, is mainly due to a parasite known as *HOOKWORM* which saps the vitality of the child and can be gotten rid of by proper treatment; the proper treatment being not one of speculation but capable of actual demonstration by obtainable results.

However, for those who prefer praying as a means of eliminating hookworms from the child, or rubbing to push them out, or an "absent treatment" to cure a tuberculous lung, to any method which the State Health Officer might suggest, he offers not the slightest objection, for whatsoever his own personal and private opinions may be he recognizes this fact: that the Public Health Service of the State has for its especial work the education of the people in personal and civic hygiene and sanitation, and that it takes time to convince and impress some people with salient truths.

Until the legislature shall determine by statutory enactment what system of medicine shall be recognized as the *only* system to be followed in Florida, the State Health Officer will continue as in the past to be guided and directed by the principles of State medicine—public-health measures and management—which have come down to us from Moses, the great sanitarian of Israel.

The late Dr. John P. Wall, of Tampa, a man of more than usual ability in his profession and a great student not only of medicines but

of human nature, was accustomed to speak in emphatic terms concerning the privilege which he thought certain classes of individuals should be accorded in the matter of medicating themselves or their friends.

The NOTES, however, for fear of offending sensitive ears, refrains from repeating the Doctor's language, which nevertheless fits the subject under discussion.

With this statement of policy of the State Health Officer and of the State Board of Health, the NOTES trusts that those of the legislators who fear that persons with contagious disease whom it may be deemed necessary to isolate and segregate for the protection of other people of communities will, when so isolated, be dosed against their wishes, may possess their souls in peace and quiet, for such method has not been the practice in the past and, with or without the amendment of Senator Henderson to Senate Bill No. 62, would not have been the usage of the State Health Officer in the future.

April 27, 1909.

DELEGATING POWER TO THE STATE BOARD OF HEALTH

A legislature is not a suitable body to make a set of rules for the management of a case of communicable disease, as yellow fever, or some cognate disease, any more than a bankers' association is a suitable body to formulate a set of rules for railroad engineering. Most legislatures recognize this and accordingly delegate the power to make rules and regulations looking to the protection of the public health to a board created for that purpose, and composed of men especially fitted to cope with questions of this kind.

California, for instance, did not do this till circumstances forced the situation. They battled along with the plague for five or six years.

Perhaps it would be more accurate to say they battled with one another on account of the plague—the city of San Francisco, the State Board of Health of California, the Governor of California, making a kind of three-cornered fight. Finally the Marine Hospital Service was requested to take charge. But the Marine Hospital Service does not undertake to exercise any police authority in any State. And still the scrap went on. And still the plague spread. Finally, the Legislature delegated to the State Board of Health power to make rules and regulations looking to the protection of the public health and gradually the plague was gained upon, till recently it was

announced that the State is at last free from plague, so far as they are able to determine.

North Carolina is another example of where the Legislature has delegated to the State Board of Health power to make "all such rules and regulations as they may deem necessary to protect the public health, and to enforce them by suitable penalties."

Some people think that that is what the Legislature of Florida meant to do when it enacted Statute 1120, which reads as follows:

"GENERAL POWERS OF THE BOARD. The State Board of Health shall have the general supervision of the public health of the State of Florida, and shall have the power to make, promulgate, and enforce such rules and regulations as may be necessary for the preservation of the same . . ."

But the Attorney-General of the State has ruled differently and we have to be governed accordingly.

THE BEST—NOT FORGOTTEN

The Legislature of North Carolina has just adjourned. But while in session it did some most excellent work.

There is such a thing as forgetting the best. There is an old, old story of a shepherd boy who plucked a flower growing on the hillside and immediately saw a cave before him. He went in and found the cave full of diamonds, pearls, and other precious stones. An old man in there told him to help himself to what he saw—to take anything, everything he wanted, but not to forget the best. He filled his pockets and hands with all sorts of precious stones. Again the old man warned him not to forget the best. But foolish boy! The flower that he had plucked was the key flower. As long as he kept it the cave with all its wealth would be open to him. As long as he kept the key flower the diamonds would keep bright. On he went, gathering larger and finer stones till he could carry no more. But alas! in his eagerness he had laid down the key flower. As he was departing from the cave the old man called out to him again not to forget the best. When he got outside, his diamonds were all ashes. The cave was closed behind him and he could see no trace of where it had been. He had forgotten the best.

A certain very rich man had some stomach trouble. He sought relief among the best physicians he could find at home and then he went to a far country, but all of no avail. He offered millions of dollars if some one would only restore to him his health. It was his

health that kept the wealth of the world open to him. It was that that kept his diamonds bright. What cared he for his wealth then? How gladly he would have given it all for "the best."

Two years ago the Legislature of North Carolina purchased an eight-hundred-acre tract for a tuberculosis sanitarium. Recently they appropriated fifteen thousand dollars annually for permanent improvement of this property. They provided diphtheria antitoxin for the indigent. They provided Pasteur treatment for persons bitten by rabid animals. They provided for a bacteriological laboratory. They already have a sanitary engineer. They provided for epidemics of smallpox, yellow fever, typhoid fever, scarlet fever, diphtheria, typhus fever, cholera, by authorizing the State Board of Health "to make all such regulations as they may deem necessary for the protection of the public health, and to enforce them by suitable penalties."

All this from North Carolina. The Legislature seemed to deem it a privilege to protect the life and health of the citizens of the State. They did not forget the best.

KEROSENE AND FLIES

"A contribution to the literature of the campaign against the housefly is made by the Warren Fish Company of Pensacola in a communication to the *Journal's* Sunday issue. This great fish company, being obliged to make the refuse from cleaned fish so offensive as to prevent the collection of 'human buzzards', by whom it was so much annoyed, has found kerosene very useful for this purpose. Incidentally, it developed that kerosene is a certain destroyer of the domestic fly. 'Sprinkled over collections of manure, garbage, and every offensive refuse matter, it destroys the eggs and puts the flies to instant flight,' says this communication. The most economical means of applying it is by a small water-pot. This statement is commended to the attention of our State Board of Health."—*Florida Times-Union.*

Thanks to the *Times-Union.* Next to commendation, we appreciate practical suggestions.

But the use of kerosene as a larvicide for flies has not proven satisfactory. Mr. L. O. Howard, Chief of the Bureau of Entomology, and one of our greatest living authorities on insects, tried this four or five years ago and reports upon it as follows:

"Experiments were therefore carried on with kerosene. It was found that eight quarts of fresh horse manure sprayed with one pint of kerosene, which was afterward washed down with one quart of water, was thoroughly rid of living maggots. Every individual was

killed by the treatment. This experiment and others of a similar nature on a small scale were so satisfactory that it was considered at the close of the season that a practical conclusion had been reached, and that it was perfectly possible to treat any manure pile economically and in such a way as to prevent the breeding of flies.

"Practical work in the summer of 1898, however, demonstrated that this was simply another case where an experiment on a small scale has failed to develop points which in practical work would vitiate the results.

"The stable of the United States Department of Agriculture, in which about twelve horses are kept, is situated about a hundred yards behind the main building of the department and about ninety yards from the building in which the Bureau of Entomology is situated. This stable has always been very carefully kept. The manure was thoroughly swept up every morning, carried outside of the stable, and deposited in a pile behind the building. This pile, after accumulating for a week or ten days, or sometimes two weeks, was carried off by the gardeners and spread upon distant portions of the grounds. At all times in the summer this manure pile swarmed with the maggots of the housefly. It is safe to say that on an average many thousands of perfect flies issued from it every day, and that at least a large share of the flies which constantly bothered the employees in the two buildings mentioned came from this source.

"On the basis of the experiments of 1897, an attempt was made, beginning early in April, 1898, to prevent the breeding of house flies about the department by the treatment of this manure-pile with kerosene. The attempt was begun early in April and was carried on for some weeks. While undoubtedly hundreds of thousands of flies were destroyed in the course of this work, it was found by the end of May that it was far from perfect, since if used at an economical rate the kerosene could not be made to penetrate throughout the whole pile of manure, even when copiously washed down with water. A considerable portion of house-fly larvae escaped injury from this treatment, which at the same time was found, even at an economical cost, to be laborious, and such a measure, in fact, as almost no one could be induced to practically adopt."

Mr. Howard's practical experiments, you see, were confined to stables, and here it was a failure.

If it is not satisfactory in the stable, its usefulness can not be very great, since by far the greater part of our flies come from the stable.

THE BATTLE OF THE MICROBES

The Merchants Association of New York is doing more than the name would imply. Some time ago they got out a pamphlet on the pollution of water in New York harbor, and one on the fly as a transmitter of disease. Now they come forward with a nice little brochure on sewage disposal in general. The pamphlet is small, perhaps a half-hour's reading, but it is a half hour well spent. The following is the preface:

NATURE'S FIGHT FOR PURE WATER.

"The destruction of human and animal waste is accomplished by two kinds of microbes. These micro-organisms are known as anaerobic and aerobic. The anaerobic are those which live without oxygen and the aerobic are those which require air for their maintenance. There are also other microbes of numerous kinds which are the germs of disease. The first class of microbes are antagonistic to the other, and when brought in contact wage relentless warfare until nothing is left of the disease germs and sewage but water—pure water—and harmless chemicals in solution.

"This purification transformation is known as nature's process and is essential for the removal of all waste organic matter which would tend, if left alone, to produce disease and death.

"Mankind calls on nature to exercise her functions while he facilitates her sanitary workings by providing suitable appliances or surroundings by which these micro-organisms can perform and complete their lifework rapidly and effectively.

"In the sewage disposal plant at Saratoga Springs, New York, an illustration of the employment of nature's forces is afforded. That which was the rankest of sewage in the sewer-pipes of the village is, in twenty-four hours or less, transformed into pure water. The writer, with others, has drunk of this pure water, dipped from the trough leading from the disposal works.

"There has been a great increase in the last few years of popular interest in sewage disposal. Yet it has been difficult to dispel the indifference of the public to the dangers of neglected sewage and to stir it to practical action on this all-important question. This is largely due to the fact that there has hitherto been no handbook dealing with the subject in terms easily understood by the layman.

"It is the purpose of this pamphlet, in which are summarized the views of American and British sanitary experts, to supply this lack, and by giving the public exact information as to the various methods of the sanitary disposal of sewage, to hasten the time when

the barbarous practice of turning lakes into cesspools and rivers into open sewers shall have ceased to be a reproach to American civilization.

"The discussion of this subject by the members of the British Royal Sewage Commission and by Mr. Collins is of necessity general, and it must be borne in mind that, as the character of the sewage and sewage conditions vary widely, no two communities, perhaps, having quite the same problem, it is impossible to prescribe a universal method of treating sewage so as to render it harmless. It is necessary to consider carefully all the elements entering into the sewage problem of each city and to apply to them, as far as may be, the principles which have been established by the experience of cities in which similar conditions prevail; there can be no cure-all in the treatment of the sewage evil. Methods of treatment, cost and results will all vary in different towns having varying conditions and industries and consequently sewage of altogether different quality.

"This committee does, however, feel justified in condemning unreservedly the method of crude disposal by emptying sewage into rivers or lakes. While the stream into which the sewage is discharged may have a sufficient volume of water to dilute it, the thorough mixing of sewage and water may not take place—a mass or layer of undiluted sewage often floating with the water on both sides of it—and a grave nuisance may result. Any form of sewage discharge without some degree of purification treatment is to be condemned. In the beginning the practice may be harmless, but it is sure, as the population increases, to become a dangerous and intolerable nuisance."

THE SEWAGE PROBLEM POPULARLY STATED.

(*Extracts from a paper by Clark P. Collins, Sanitary Engineer.*)

"Sanitary engineering is that branch of civil engineering which is concerned with the construction for promoting the health of the community.

"It is wide in scope, but it can be generalized under two important heads, viz.: water-supply and sewerage.

"In this connection it should be said that pure water-supply and good sewerage are both essential, and that it is impossible to separate the value of one from that of the other.

"A polluted water-supply may spread disease, no matter how perfect the sewerage, and an abundant water-supply is essential to the proper working of sewers.

"On the other hand, without sewers and drains an abundant water-supply simply acts as a carrier of filth to impregnate the soil.

"No town or city can submit to a continued want of an adequate supply of pure water and a systematic plan for the removal of its wastes without a serious check in its prosperity.

"Sanitary improvements are therefore among the first and chief duties of public officers and guardians, and should ever be the object of most earnest thought to those in whose charge and under whose direction these improvements are furthered.

"Our rivers should prove a great blessing to our cities, and it is nothing short of a crime that their waters should be contaminated by filth.

"Most foul and fearful of all the artificial pollutions which ignorant and careless humanity permits to reach the streams is the drainage of cesspools, sewers and stable-yards.

"The authorities who subject their citizens to the dangers of water courses impregnated with fecal substances, that the bodies of other persons and animals have already excreted, open for them the gates to aches and pains and weakness of mind and body.

"There is no community, there are few families and comparatively few animals without disease.

"In very large communities there is rarely a time when virulent disease does not exist, and unless the excretions from such sources are properly disposed of much trouble must be expected and many lives must pay the penalty of this sad neglect.

"First—after water-supply—for the health of any community is a carefully arranged system of sewers whereby these deadly enemies to mankind may be speeded away and properly disposed of.

"This subject naturally invites our attention to the methods whereby the most favorable results may be reached, that the people who are called upon to bear the expense of these improvements may feel assured that the best plan has been adopted.

"The methods of sewage disposal which are now practiced in this country may be spoken of as crude disposal, disposal by chemical precipitation, by irrigation and by filtration.

Crude Disposal.

"Crude disposal contemplates discharging the sewage in its crude or unclarified state into some near watercourse or body of water. This is usually by far the cheapest method of disposing of the sewage where the flow of the stream is large enough sufficiently to dilute the sewage at all seasons of the year; or should the town or city be located on the

coast the sewage may be conducted in pipes into deep water and thereby sufficiently diluted to render it harmless.

Chemical Precipitation.

"Chemical precipitation consists in collecting the sewage in tanks, having just previously mixed with it certain chemicals, usually calcium oxide or 'lime', the result of which is to precipitate all matter in suspension and a portion of the material in solution.

"A semi-fluid mass collects at the bottom of the tanks, called sludge, which may be drawn off or pumped into beds to drain and dry out, after which it is disposed of as the authorities see fit.

Irrigation, or Sewage Farming.

"In irrigation the sewage is used to irrigate the crops, and the process is frequently called sewage farming.

"It is very efficient when the land is of sufficiently porous, sandy or gravelly material, such being much better than that which is fine and more compact.

"The sewage is discharged upon the ground, the coarser material being left on the surface, while the finer portions pass into the earth to a greater or less depth, depending upon the coarseness of the soil.

"The water freed from the matter in suspension descends still further into the ground, coming in contact with the air in the earth. The impurities which it contains are thereby oxidized, that is, purified by the action of bacteria dependent for life upon the oxygen contained in the air.

"The purified liquid may descend still lower, or it may be carried off in underground drains laid for that purpose.

"The insoluble matter is also oxidized by slow combustion and is thereby reduced to a fine powder and mingles with the elements of the earth.

"In irrigation only such sewage is applied as will be beneficial to vegetation, and the prime object more often is the profit that may be derived from the crops raised.

"Irrigation therefore requires a large area, and the difficulty experienced by cities in successfully operating sewage farms restricts the use of this method in the United States almost entirely to the arid regions, where the soils require irrigation anyhow and where water for irrigation is scarce and valuable. This method is used to a considerable extent in Europe, notably in Paris, in Berlin and in Birmingham and several other English cities.

"From five thousand to twenty-five thousand gallons per acre per day may be purified by irrigation, the amount depending upon the porosity of the soil.

"A very high degree of purification can be attained by irrigation.

Filtration.

"With the exception of irrigation under very favorable conditions, intermittent sand filtration furnishes the most efficient means of purifying sewage which is in common use.

"In this method the sewage is discharged intermittently upon the surface of sand filters from three to five feet deep. The area of filter needed will usually be one acre to every one hundred thousand to one hundred fifty thousand gallons of sewage per day.

"Any clean, good coarse sand will answer for the filter.

"The bottom of the bed is generally covered with a layer of graded pebbles or broken stone to make the drainage more nearly perfect.

"The filter is usually underdrained by lines of drain-tile placed about twenty feet apart.

"The theory of action of sand-filters is, that upon the surface of sand grains bacteria of purification become established in innumerable quantities and work upon the organic matter in the sewage slowly trickling past them. In sand-filters the bacteria are of the general class known as aerobic bacteria, or those which require oxygen to live.

"Hence the application of the sewage must be intermittent to allow each dose to penetrate down into the sand out of sight and draw air into the pores after it, before the next dose is applied.

"Sewage disposal plants having sand-filters remove from 90 to 98 per cent. of the organic mater from the sewage and from 98 to 99 9-10 per cent. of the bacteria.

"In case the highest efficiency of purification is not essential, sprinkling-filters are used to very good advantage, especially when a very high rate of filtration is required.

"The sprinkling-filters are made of coarse material, say one-eighth inch to one inch in size.

"Sewage flowing upon such coarse material would pass through the large pores too quickly to receive much purification. Hence the sewage must be sprinkled upon the top surface in drops to insure its simply trickling over the surface of the pieces of filter material.

"There are many devices for distributing the sewage in this way, including principally perforated arms and spray nozzles.

"In the case of sprinkling filters, owing to the coarseness of the filtering material and the fact that the sewage is applied in the pores, sufficient air remains constantly in the pores of the filters to keep alive the aerobic bacteria of purification.

"Hence the application of sewage need not be intermittent, as in the case of sand-filters.

"Sprinkling filters will purify from one to two million gallons per acre per day, but they are not so efficient as sand-filters. Fine black particles of partly purified organic matter often cloud the effluent to such an extent that settling-tanks must be provided for clarification.

Comparison of Methods.

"These form the principal methods of finally disposing of the sewage.

"The first, viz.: that of crude disposal, can not now be classed as a scientific disposition of the sewage for inland towns and cities.

"The country as a rule has been so denuded of timber that the rivers become very low during the periods of little rain, thus rendering this method of disposal at such times very dangerous; the flow of the stream not being adequate to dilute the sewage sufficiently.

"In many States Legislation prevents the adoption of this method.

"Chemical precipitation, an account of the great cost of chemicals and labor required and the difficulty of satisfactorily disposing of the large amount of sludge precipitated, is now being considered a back number, although it was quite popular twenty years ago.

"Only forty-five to fifty per cent. of the organic matter can be removed by this method, which in itself condemns its use in most cases.

"The method of filtration is by far the best and is now being adopted all over this country. As a preliminary treatment of the sewage in connection with the methods described, settling-tanks and septic tanks are often used."

NOTICE

At the close of the annual session of the Florida Funeral Directors Association there will be held, at the office of the State Board of Health in Jacksonville, an examination for embalmers. Applicants will be governed accordingly.

These examinations are held twice a year—in May and November.

Record Co. St. Augustine, Fla.

Florida Health Notes

OFFICIAL BULLETIN

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EDITED BY

Joseph Y. Porter, M. D., Secretary and State Health Officer.
Hiram Byrd, M. D., Assistant State Health Officer.
Offices:
Jacksonville, Dyal-Upchurch Building.
Key West, Room 10, Monroe County Court House.
Laboratory: Jacksonville, L'Engle Building.

Sent to any address in the State for the asking.

If you receive it without asking, it means that someone else has requested it for you.

When you change your address drop us a card.

When giving change of address, give both the old and the new.

Anything you want to know about the public health we will try to tell you.

Any information you want about diseases of domestic animals we will help you to get.

Vol. IV **June, 1909** **No. 5 (New Series)**

Jog on, jog on, the footpath way,
And merrily hent the stile-a,
A merry heart goes all the day,
A sad tires in a mile-a.
—*Winter's Tale.*

HOOKWORMS

Since the publication of the hookworm number of Health Notes, the number of inquiries received at the office of the State Board of Health concerning one phase and another of this disease is almost unbelievable. It is a very encouraging state of affairs.

It is not a pleasant thing to say that our State is so full of this disease, but facts are facts, and there is no better way to correct this evil than to state it plainly. This we have done without apology. The battle is formally opened now—the rest of the fight is only to furnish ammunition—the people are doing the rest.

It is not going to take a generation to see this changed. To show you what is going on: The largest wholesale drug-house in the

State used to carry from a few ounces to a pound of thymol in stock. Wholesale houses, mind you. And even that was a liberal stock. A retail drug-store down the State the other day received a consignment of thymol—fifty pounds. Does that look like a war against hookworms? It is safe to say that in five years this disease in Florida will be reduced by one-half, and in a decade it will be almost unknown. Then we will not need to blush when we speak of hookworms in Florida. We will be proud of the work our State will have done—the joint work of the State Board of Health, the medical profession and the people.

HOW TO SEND SPECIMEN FOR EXAMINATION.

The office of the Board has received so many letters asking just how to send specimens for examination, that directions how to proceed are given below:

The first thing is to send to the State Board of Health for a mailing case. These are furnished without cost. The outfit sent consists of: (a) the case, (b) the bottle, (c) the blank to be filled in. The bottle contains some liquid, which is not to be poured out. Right into this liquid in the bottle, put about a thimbleful of the feces. Cork the bottle tightly. Fill out the blank for hookworms. Put the bottle and the blank both in the case, packing enough cotton around to keep it from rattling, then screw the lid tightly on, and it is ready for mailing. Put on plenty of postage—that will avoid delay.

Simple, isn't it?

N. B.—Specimens improperly packed and sent through the mails are a violation of the U. S. Postal regulations, and will not be examined. If the Board did examine such improperly packed specimens, it would become a party to the transaction, and this it can not afford to do. But all specimens properly packed will be promptly examined and results reported at once.

The State Board of Health is also frequently asked about the treatment of hookworms at home, without a physician. This is sometimes done—there is no law against it—but the Board disparages it. Get a doctor if you can.

HOOKWORMS IN MEXICO

Almost every day brings report of the hookworm in a new place, but always in tropical or sub-tropical countries.

This is the thing to be expected. The critical period in the life

of a parasite is its passage from host to host. It is a law of parasitism that the offspring must seek other hosts than that infested by the parent. The offspring of the tick, for instance, never lives upon the cow that the parent tick lived upon, the offspring of tape worms usually live upon not only a different animal, but passes a certain stage in a different kind of animal. Take, for example, the tape worm that infests the cat, and his offspring passes an intermediate stage in a rat before it finally reaches the next cat as a tape worm. The definitive host of the malarial parasite is the mosquito. But the offspring of the parasite does not continue in the same mosquito—it must get out and reach others. And in its passage from one mosquito to another it undergoes certain changes and passes through a stage of its existence in the human blood, before it finally gets back to a mosquito.

As I have said above, it is this period of passage from animal to animal that makes the critical period of the existence of the parasite. To illustrate: When the tick is mature, it drops from the cow to the ground and lays its several hundred eggs and dies. These eggs hatch and climb upon the grass and wait for another cow to come by. If the cow doesn't come in the course of a few weeks the tick dies. And while the tick waits many are the accidents that might terminate its existence. Thousands perish while waiting to one that finds a host.

And so it is with the hookworm. The eggs are passed into stools of the child or person infected. They hatch upon the ground. Now the larva must wait till some luckless urchin comes by with bare feet and steps in the right place before the larva can get anchorage. It may be days or weeks, or it may never occur. And if it does not occur within a limited time these larvae all perish. And while waiting for a victim, they must have moisture, else they perish. It is probably safe to say that millions perish to one that finds a host.

Now, this is true under favorable conditions. Make them unfavorable and the critical period in the life of the parasite becomes far more critical. When the weather is cold, for instance, the larvae die the sooner from cold. And at that time the child comes clad in shoes if he comes at all.

From these facts, we would expect to find hookworms prevalent only where the critical period of its existence is not so hazardous. And this is only in the warmer and more moist parts of the world. But warmth and moisture may be had in a mine located even in the northern latitudes. If so, then the introduction of the hookworm is all that is necessary for it to spread.

In a general way then, we would expect to find the hookworm belting the earth in a zone, corresponding roughly to the lower austral life zone. This has been defined by Dr. G. Hart Merriam as follows: That zone belting the earth and extending north and south of the equator to where the total of the mean daily temperature amounts to less than 18,000° F. or 10,000° C. This, roughly speaking, is about forty degrees north and south of the equator, so that the zone is about 80 degrees in width.

This does not mean that the hookworm is necessarily all over this zone—there may be places where it has never been introduced, but it means that the hookworm would anchor, if introduced under favorable conditions, anywhere in this part of the world—it would do its part toward peopling the earth with its kind.

The hookworm was first found in Italy, or rather between Italy and Switzerland, in the great St. Gothard tunnel. It is in Egypt, or rather in all the northern portion of Africa. It is in India, China, Malay and the Philippines. In the Western Hemisphere it is in the West Indies, the Southern United States, and now it is reported from Mexico, Central America, and Panama. It prevails extensively in Australia. It comes as no surprise that it should be reported from Mexico.

IS IT WORTH WHILE?

Flies can be exterminated. That is certain. They do not breed in swamps, like some mosquitoes do, and they do not breed in rain barrels like some other mosquitoes do—they breed only in filth. If no filth is allowed to remain in a given vicinity, there will be no flies in that vicinity.

Flies can be exterminated, but it will cost effort. Not only effort on the part of the Board of Health but effort on the part of the entire community. Not spasmodic effort, but persistent hammering effort. Let all unite and it will be accomplished. Let all unite but one and he can raise flies enough for the whole community.

Flies can be exterminated, but is it worth while? That is what it will cost; this is what it will be worth:

It will prevent most cases of typhoid fever.

It will prevent most cases of summer complaint, (whatever that is).

It will prevent some cases of tuberculosis.

It will prevent Asiatic cholera, (in countries where that exists).

It will prevent some cases of tropical ulcer, (in countries where that exists).

It will prevent many a profane thought entering the baldheaded cranium; (apologies to the bald head.)

It will prevent many an angry and ineffectual slap in the early morning hours.

It will prevent (this from the house-keeper) the walls and curtains from being specked.

It will prevent (this from the dog) his sores from being irritated.

It will prevent (this from the sugar bowl) the whatever-it-is from the dog's sores. Is it worth while?

COMMUNION CUPS

————, March 13, 1909.

Hiram M. Byrd, M. D., Jacksonville, Fla.

DEAR SIR—The tuberculosis number of HEALTH NOTES is excellent, but one very important aid in stamping out the disease has been overlooked. In my opinion much mischief is caused by the *common cups* used in so many of our churches on Communion Sunday. One would not drink from the same cup with one's own known friends, how much less with strangers, victims of we know not what disease. Let the State Board of Health take up this question, and when every church shall use by choice or compulsion the individual cup, the battle is more nearly won.

Wishing you success in the "good fight," I am,

Very truly yours,

————

JACKSONVILLE, FLA., March 17, 1909.

DEAR MADAM—I beg to acknowledge with thanks your favor of the 13th instant re communion cups. I quite agree with you that it is a matter that should be attended to. The actual danger from this may be more apparent than real, just as the actual danger from the public drinking cup may be. But the use of the common drinking cup, whether at the communion table or elsewhere, is to be disparaged, for aside from its being a jarring factor to refined sensibilities, there may be at times a margin of danger. This applies especially to communion cups for at other public cups one has the freedom of choice whether he will drink or not, besides one may wash the cup if he so desires, both of which privileges are abridged at the communion table.

Again thanking you for writing, I am,

By direction of the State Health Officer,

Very truly yours,

HIRAM BYRD,

Assistant State Health Officer.



Many a Home Has Been Happy and Cheerful Until—



Consumption Claimed the Bread Winner.



Death for the Victim and Poverty for Those Left Behind is the Usual End.

CONSUMPTION IS PREVENTABLE!

CONSUMPTION IS CURABLE!

—Virginia Board of Health Bulletin.

FRESH AIR AND CONSUMPTION

There is in this State a man who believes, and preaches that fresh air is the best thing for consumption. How he came to be a fresh air convert is something like this:

Twelve years ago he started to Colorado for consumption. While on the way he had a hemorrhage of such severity that a number of ladies begged the conductor to stop the train and have him removed. A day later in Denver, while walking about, he had another, the loss of blood from which was so great he could hardly stand. His ghostly face and blood-stained apparel presented a sight of such horror as to make it difficult for him to engage the services of a negro hackman to drive him back to the hotel. After a few days rest and the gloomy despondency and endless night that follows the consciousness of a hope that's lost, he set out for home and the family graveyard.

A physician of some note was called from a distance by the mother who would not abandon the fight. His simple prescription was fresh air, raw eggs, and sweet milk. They obediently placed his cot on the sunny side. Here he lived with only Nature's canopy about him. On pure air, a half dozen raw eggs, and a pint to a quart of sweet milk a day, he gained a victory seemingly impossible. A cramped, hollow, coughing, phthisical shadow grew to be a strong and healthy man of 160 pounds. The shroud of despair became the glow of returning health. His long fight, the years of affliction, and his patient endurance, with the final triumph, is a record that is known to many. He is often consulted, and has directed more people suffering from this disease the right way toward recovery and good cheer than any other—I might say any other hundred—laymen in the State.

NEW YORK STATE MID-WIFE LAW

(Extract from Penal Code.)

CHAPTER 325, LAWS OF 1892.

Section 288. Unlawfully omitting to provide for child. A person who, * * *.

3. Being a midwife, nurse or other person having the care of an infant within the age of two weeks neglects or omits to report immediately to the health officer or to a legally qualified practitioner of medicine of the city, town or place where such child is being cared for, the fact that one or both eyes of such infant are inflamed or reddened whenever such shall be the case, or who applies any remedy therefore without the advice, or except by the direction of such officer or physician; or,

4. Neglects, refuses or omits to comply with any provision of this section or who violates the provisions of such license, is guilty of a misdemeanor.

*The above extract from the *Penal Code* of the State of New York is frequently referred to as the Howe Law, as it was secured largely through the efforts of Dr. Lucien Howe, of Buffalo, N. Y.

IN MEMORIAM

The NOTES regrets to chronicle the death of Hon. Wm. B. Henderson, of Tampa.

Mr. Henderson was appointed a member of the State Board of Health, when the Board was organized, in 1889. In 1892 he was elected President of the Board, which position he held till June, 1901.

"One by one, the old landmarks are being effaced." A generation ago others were making room for them, as they in turn are making room for others, which will, a little while hence, leave, in turn, their places vacant. Happy the man who has lived well, who has been a factor in the progress of the nation, who has been constructive rather than destructive.

We bow in sorrow at the loss of this substantial citizen of Florida, this erstwhile member and President of the State Board of Health.

PASTEUR TREATMENT AT HOME

During the last year the State Board of Health has administered the Pasteur treatment for the prevention of rabies to thirty-six people. And none have developed the disease. We know of only one person bitten by a mad dog who did not take the Pasteur treatment, and he died of hydrophobia.

All of the thirty-six cases have been treated in Jacksonville. That is a little better for the people of Florida than going to Atlanta—a little saving in railroad fare, besides there is no cost to the individual for the treatment.

But even that is not as it should be. It should be so that any person in the State could take the Pasteur treatment at home and with a minimum of expense. And that is what the State Board of Health have arranged for now.

Henceforth the Pasteur treatment will be administered in Florida as follows:

When one is bitten by a supposedly rabid animal, in any part of the State, he at once calls the family physician. The doctor treats the wound, and then sends the animal's head, packed in ice, to the laboratory of the State Board of Health. The head is examined and if the animal is found to be suffering from rabies, the State Board of Health at once orders the Pasteur treatment sent to the physician in attendance on the patient. A member of the staff of the State Board of Health who has had experience in the administration of the treatment, calls on the physician and family and goes over the entire subject with them.

Now the patient calls at his physician's office once a day and gets his treatment. The rest of the time the patient goes about his business. The treatment ordinarily lasts twenty-one days. The patient then pays the physician's fees which are usually $21.00. The State Board of Health pays for the preparation of the treatment. The total cost then to the patient is $21.00 and no loss of time to sustain. And this $21.00 goes to his family physician.

This arrangement is unique, in that Florida is the only place in the world where it is done just that way. Its advantages are that it brings the treatment to every man's door, with a minimal expense, and without loss of time.

The State Board of Health is never so happy as when it can advance the interests of the people of Florida.

MEDICAL ABSTRACTS

In Far Away Bombay

Looking upon India as the profile of a huge lion, with his feet to the south and his face to the west, along his breast, skirting the Arabian Sea, is a section known as the Bombay Presidency, which is about three times as large as Florida.

This Bombay Presidency is one of the British provinces, and the executive government is vested in a governor and two councillors.

The capital of this province is Bombay, which is situated on an island just separated from the mainland.

The present Governor of the Bombay Presidency is Sir G. Clarke.

On the twenty-third of February, in the city of Bombay, assembled the "Bombay Medical Congress."

From all parts of the world celebrities gathered together in deliberation on things medical. Prof. Shiga, who discovered the Shiga bacillus, was there as the representative of Japan. Musgrave of the United States, stationed in the Philippines, was there. Dr. Ronald Ross, who first followed the malarial parasite into the stomach of the mosquito and found its secret method of reproduction, was there from England.

The congress was pronounced a great success. What else could it be with such a personnel dominating it?

But the feature that deserves special mention is the address of Sir G. Clarke, Governor of Bombay. The Governor is not a medical man, but the address that he gave before that body, his masterly resume of medical progress during his recollection, was one than any medical man might well feel proud of. It is summarized in the *Journal of Tropical Medicine and Hygiene* as follows:

"After welcoming to India Professors Musgrave and Shiga, co-representatives of the United States and Japan, and Major Ronald Ross, who is revisiting India to join the deliberations of the congress, the Governor commenced by pointing out that in the present year we have but just passed the jubilee of Pasteur's researches on vinous fermentation which he rightly regards as the true starting point of the modern era of medical progress.

"After touching lightly on Jenner, who, the Governor thinks, may have been on the threshold of Pasteur's discovery, he passed to the epoch making work of Lister as the logical following out of Pasteur's researches from the standpoint of medicine, and recalls to our remembrance the curious mental attitude of some of those leaders of medical thought as to the possibilities of further progress. 'I remember well', said Sir George, 'that at this period we were gravely assured, and we believed, that medicine had almost spoken its last word, and had become mainly empirical, and that the future of curative science evidently lay with surgery. This was a peculairly unfortunate prophecy, and it may serve as a useful warning against the tendency to set a limit to scientific knowledge and progress.'

"Those of us who are old enough to remember the stirring times of the seventies can not fail to remember the half-deprecatory manner in which the great reform was received. Who does not remember the microscopist, who demonstrated by mathematical methods that no advance on our poor little low angle, dry 'eights', was possible, or the surgeon of the practical school, who delighted to point out to his class that antiseptic surgery was nothing more than ordinary cleanliness systematized?

"After a masterly summary, ranging from the work of Koch and Klebs thirty years back to opsonic and toxic methods at the present day, Sir G. Clarke concluded his address as follows:

" 'The medical profession is now scientific in the highest sense of the term. I can remember the time when this could not have been said without reservations. I believe that no other profession has

before it so many fields plainly inviting research; certainly no other profession has open to it such entrancing possibilities of conferring benefits on humanity. I should like to mention two striking instances of what medical science has accomplished of late years. When I was at Malta, the death-rate from what was vaguely known as 'Malta fever' was high, and the number of cases very large. We engineers used to spend our time trying to find cause of pollution of the water supply which did not exist. Then came Major Bruce, who isolated the bacillus, worked out its biology, which was mainly associated with goats and their milk, and converted Malta into a healthy station. The second instance is the excellent work of the United States Army Commission at Panama in 1900. The discovery, by means of scientific research, that yellow fever is conveyed by the mosquito may almost be said to have rendered possible the vast engineering which will powerfully influence the commerce of that part of the world. Bacteriology is still in its infancy, and valuable discoveries await the investigator who can bring patience and scientific methods to bear upon the many problems of disease. Good work is being carried on here in India, as papers to be read during the Congress will prove, but much more remains to be undertaken. Visiting many hospitals, as I have done since I came to India, I have frequently seen charts of fevers of the country, and have been told that their character is obscure, and that ordinary blood examinations give negative results. Here, I believe, is one of the many fields of inquiry in which knowledge that is power may be gleaned. The Congress, as Surgeon-General Stevenson tells us, has thrown its net far and wide. I earnestly trust that the papers read, and the interchange of views thus arising, will give a fresh impetus to medical progress in India. Germs of thought may surely be evolved which will blossom into achievement. Our students may feel inspired to high aims, and will at least realize that their college training is only the introduction to the study of modern medical science. I am hopeful that the vernacular papers, many of which have helped to disseminate facts about plague serum, will assist us in spreading knowledge of a general character, in which India is sadly deficient. Lastly, I am sure this Congress will emphasize the essential solidarity of the noble profession of healing, which knows no distinction of race or color, and unites all true workers as members of one great brotherhood, engaged in combating suffering and disease throughout the world.' "

SYNOPSIS OF WORK OF THE LABORATORY STATE BOARD OF HEALTH OF FLORIDA FOR JANUARY, FEBRUARY, MARCH AND APRIL, 1909

JACKSONVLLE, FLA., March 11, 1909.

Dr. J. Y. Porter, State Health Officer, Key West, Fla.

DEAR DR. PORTER: Your request for a statement of the laboratory work done during the month of January, 1909, just received. I sent such a report about the fifth of February, purposing to make a monthly statement of this kind, so that you may keep track of things, but it apparently did not reach you. The figures requested are as follows:

Total examinations for..	Typhoid	Tuberculosis	Malaria	Diphtheria
	148	107	177	106

Total for Group I.....538

Total examinations for.....	Gonorrhea	Feces	Urine	Pathological
	35	48	26	26

Total for Group II.....135

Total all kinds 673

This monthly total is above normal because of the examinations for malaria and typhoid made by me at Tallahassee, in addition to those made at the laboratory in the regular course of work.

Very truly yours, A. E. THAYER,
Director of the Laboratory.

JACKSONVILLE, FLA., March 5, 1909.

Dr. J. Y. Porter, State Health Officer, Key West, Fla.

DEAR SIR: The work of the laboratory for the month of February, 1909, is as follows:

Examinations for	Typhoid	Tuberculosis	Malaria	Diphtheria
	117	90	100	59

Total for Group I.....366

Examinations for.....	Gonorrhea	Feces	Urine	Pathological
	46	22	34	45

Total for Group II.....147

Total for month 513

Totals for the first two months of the year:

Group I...	904
Group II..	282
	1,186

Average specimens daily.....20.101
Yearly at this rate 7,336
Respectfully, A. E. THAYER,
Director of the Laboratory.

JACKSONVILLE, FLA., April 1, 1909.

Dr. J. Y. Porter, State Health Officer, Key West, Fla.

DEAR SIR: The work accomplished in the laboratory during the month of March shows the following total examinations in the various kinds of material submitted:

Typhoid	Tuberculosis	Malaria	Diphtheria
119	99	143	40

Gonorrhea	Feces	Urine	Pathological
46	37	33	82

Group I... 401
Group II.. 198

Total of all kinds 599
Daily average 19.322

Since all diphtheria specimens receive two examinations, forty more were done than appear in the above, which would give a daily average of 20.61 for the month. Respectfully yours,

A. E. THAYER,
Director of the Laboratory.

JACKSONVILLE, FLA., May 1, 1909.

Dr. Joseph Y. Porter, State Health Officer, Jacksonville, Fla.

DEAR SIR: The work of the laboratory during the month of April, 1909, is as follows:

Tuberculosis	Typhoid	Diphtheria	Malaria	Total
113	131	34	185	463—Group I.

Gonorrhea	Feces	Urine	Pathological	Total
40	44	46	55	185—Group II.

Total for month, all kinds.....648
Daily average 21.6

Work of the year for first four months:

January, total.....	673
February	513
March	599
April	648
	2,433

Yearly at the same rate, 608.25 per month, would equal 7,275.

Respectfully yours,

A. E. THAYER,

Director of the Laboratory.

THE SANITARIAN

"A bill has been introduced in the New York Legislature, amending the educational law, by providing for the establishment of a State School of Sanitary Science and Public Health at Cornell University."—*Science, March* 19, 1909.

And why not? The medical schools of the country do not give much practical training in sanitary science. They make doctors, not sanitarians. There is a wide and fundamental difference between the two. They must both have a thorough knowledge of medicine as a prerequisite, just as the surgeon, the oculist. And these all get that in the same school. But when they leave the medical college their several ways diverge—the surgeon goes one way, the oculist another, the sanitarian another. And it is just as important that the man upon whom rests the responsibility of the public health should have special training as it is that the man who poses to treat the eye should have special training in that particular field. Sanitation is a specialized branch of medicine.

THE LATE DR. LANDRUM

One by one are the old landmarks in the service of the State Board of Health being effaced. The grim reaper has claimed Dr. Landrum, of DeFuniak Springs.

This aged and venerable man, this gentleman of the old school, has been permitted to serve his fellow creatures for a long time. He has officiated at the advent of the blushing infant into the world, has ministered to its aches and pains, seen it flower into womanhood, motherhood, and in turn has ministered to the needs of *her* little one and *hers*.

He has been the hope of the sick and suffering, the comfort of the afflicted, the father-confessor of the wayward.

He has been a devoted husband and father in his family, a model citizen in his community, and an honored member of his profession.

It was a heart like his that Ian McLaren had in mind when he described his famous "Doctor of the Old School", a man whose influence had a wider circle than his fame.

WARNING!

The glorious Fourth will soon be here.

And with it will come the fireworks.

Toy pistols, blank cartridges, and trivial wounds.

And after a few days lockjaw.

In 1903 there were 403 deaths in the United States from lockjaw following 4th of July accidents.

They have gradually been reduced.

In 1907 there were only 73 deaths from this cause.

Lockjaw is a preventable disease.

But it is not curable.

The way to prevent it is by the use of antitetanic serum.

The time to give the serum is soon after the wound is received, before symptoms of lockjaw develop.

After symptoms develop it is eternally too late.

The State Board of Health will pay for the antitoxin used with the indigent.

That is when it is used as a preventative.

The Board does not pay for it when administered after symptoms of lockjaw develop. It does no good then.

NOTICE

The State Board of Health does not distribute antitoxin.

It pays for diphtheria antitoxin, when used with the indigent, but it does it this way: The physician in attendance prescribes diphtheria antitoxin and gets it of the nearest druggist. He then gives the druggist a certificate of indigency as follows:

STATE BOARD OF HEALTH OF FLORIDA.

CERTIFICATE OF INDIGENCY.

....., Florida, ...19...

I hereby certify that.....is an indigent patient under my care; is suffering from.....; that I have prescribed.....units of.....antitoxin; that said..... is not pecuniarily able to purchase the above agent, which in my professional opinion is demanded and required to save the life of said patient; and that my professional services in this case have been given gratis.

The above antitoxin has been furnished by.....

Signature of Physician.....

The druggist then attaches this certificate to his bill and sends it to the State Board of Health, Jacksonville, where it is audited and paid.

As regards tetanus antitoxin, it is managed in the same way, using the same certificate of indigency, with this difference: In the case of tetanus the Board only pays for antitoxin when used before symptoms of lockjaw develop, that is to say, it only pays for it when used as a prophylactic—not as a curative. After the disease develops, tetanus antitoxin does no good. But it is a very efficient prophylactic. Diphtheria antitoxin, on the other hand, is both a preventative and curative.

To summarize: The Board pays for

Diphtheria antitoxin, when used with the indigent, whether as a preventative or cure, and for

Tetanus antitoxin when used with the indigent, provided it is used as a preventative, but

It handles neither. They are both to be had from the nearest druggist.

Record Co. St. Augustine, Fla.

SPECIAL TYPHOID NUMBER

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HON. E. M. HENDRY, President, Tampa, Fla.
HON. H. L. SIMPSON, M. D., Pensacola, Fla.
HON. HARRY FOZZARD, Jacksonville, Fla.

EDITED BY

JOSEPH Y. PORTER, M. D., Secretary and State Health Officer.
HIRAM BYRD, M. D., Assistant State Health Officer.

Offices:
Jacksonville, Dyal-Upchurch Building.
Key West, Room 10, Monroe County Court House.
Laboratory: Jacksonville, L'Engle Building.

Sent to any address in the State for the asking.
If you receive it without asking, it means that someone else has requested it for you.
When you change your address drop us a card.
When giving change of address, give both the old and the new.
Anything you want to know about the public health we will try to tell you.
Any information you want about diseases of domestic animals we will help you to get.

Vol. IV July, 1909 No. 7 (New Series)

TYPHOID FEVER

Etiology and Prophylaxis

[Paper by Dr. Hiram Byrd. Read before State Medical Association, Pensacola, Fla., April, 1909.]

This paper does not pose as a complete treatise on the etiology and prophylaxis of typhoid fever—it is suggestive rather than exhaustive. It hardly touches the commoner phases that are so familiar to all, but is confined largely to the newer conceptions of the disease.

Its most ardent hope is, that it may serve as a stimulus to a closer study of this complex, terrorizing, yet fascinating infection.

Prior to 1896, typhoid fever was conceived to be among diseases a distinct, definite entity, due to a certain micro-organism, the B. typhosus of Eberth. Furthermore it was conceived that the disease was essentially of intestinal origin, hence the name "enteric fever."

But this conception has altogether changed, and to trace its evolution is no less interesting than instructive. It is believed that until

within recent years the bacillus coli was often confounded with the typhoid bacillus. It has even been questioned whether these two organisms are variations of the same species or distinct species. But improved laboratory methods have finally determined that there are distinct and constant differences of such importance as to keep the two well apart. And while the B. typhosus and the B. coli are distinctly separated, their differences are completely bridged by a series of intermediate forms.

Ever since Widal introduced the agglutination test in typhoid fever, it has been observed that a few cases of classical typhoid have failed to react. This was cleared up by Achard and Bensaude in 1896. These observers isolated two atypical typhoid bacilli—one from a post typhoid abscess, and the other from a case of cystitis. These bacilli, while like the typical typhoid organisms in most respects, gave certain cultural characteristics that were different, and what is more important, the serum of these patients did not agglutinate the typhoid bacillus. These were given the name of B. paratyphosus, since which we have recognized two organisms capable of producing typhoid fever. Some six years later, Schöttmuller, Brian and Kayser (1902) classified the paratyphoids as "A" and "B". Thus we have three organisms capable of producing typical typhoid fever. And so, one by one, organism after organism has been added, until now we have no fewer than six kinds, some of which, at least, represent not a single variety, but a group—and these six kinds of organisms—sub-groups with the typhoid bacillus at one end, and the colon bacillus at the other—all capable of producing typical typhoid fever, are all lumped together forming the great typho-colon group.

Typhoid fever then is not a single entity, but a "group" disease. If we will bear this in mind it will help us to understand many otherwise inexplicible phenomena.

This disease seems to be unique, in that the term includes a group of causes, more or less closely related and the symptoms produced by any one of these may be indistinguishable from those produced by any other.

Diphtheria is due to the B. diphtheriae of which several types have been described, which would seem to indicate that it, too, is a group disease. But Goodman has shown that the several types of B. diphtheriae are only variations of the same organism, and that the slight differences encountered are not constant, but may be either produced or eliminated by cultural methods. Hence diphtheria can not be regarded as a group disease.

The term "malaria" is a generic one and includes several species of fever, each due to a different species of organism. In malaria the clinical manifestations also vary according to the organism that enters as the etiological factor. But this clinical variation is completely wiped out in the typho-colon group.

Even the typhoid bacillus itself does not produce a constant train of symptoms. They are sometimes severe, sometimes mild, sometimes long drawn out, sometimes rapid in recovery, sometimes the bowel manifestations predominate, sometimes other symptoms. But the variation doesn't stop here. Sometimes the typhoid bacillus produces typhoid fever, sometimes it produces pneumonia, bronchitis, sore-throat, hepatitis, cholecystitis, appendicitis, meningitis, abscess, middle-ear disease.

Now since the typhoid bacillus may present such a kaleidoscopic clinical picture, we are compelled to assume that a similar, if not so great a variation, is produced by the several members of the typho-colon group. Then what an infinite variety of clinical manifestations we may expect as a result of infection with various members of this group.

And this complx situation is far reaching in its effect on diagnosis. No wonder we have for the last several years been puzzled over the many "types" of fevers we have met. Such a complex disease is not only mystifying at the bedside, but it is equally so when it comes to interpretation of laboratory results, unless we take full cognizance of the group idea of the causal agent.

It is needful to mention in passing a few general features of the typho-colon group.

Beginning with the B. typhosus it is to be observed that culturally it is somewhat marked off from the other members of the group. But the most delicate test is the agglutination test.

There are many bacteria that are agglutinated by the serum of an animal suffering from the disease they have produced. So delicate is the reaction that it may be retained when diluted hundreds or even thousands of times. This is called "specific" agglutination. It is also called the Widal reaction from its discoverer.

Then there is the "group" agglutination; organisms belonging to the same group will interagglutinate, but not in high dilution. The serum has to be more or less concentrated to bring out the "group" agglutination. Furthermore, the more closely related, biologically, two organisms are, the more pronounced will be the inter-agglutination, i. e., the higher dilutions it will manifest itself in.

With this hasty glance at the typho-colon group, let us see how the organisms enter the body, where they multiply in vivo, and how they are excreted, for in this lies the suggestions for prophylactic measures.

Typhoid fever is now regarded as a primary bacteremia. The bacilli can easily be recovered from the blood during the first three or four days of the disease, by appropriate laboratory procedure. But they do not appear to multiply there to any great extent. They soon find their way to the gall bladder, and here they multiply very rapidly. Indeed, bile, possibly altered somewhat by their presence, is one of the best media for the bacilli. Typhoid bacilli injected into the vein of the ear of a rabbit were recovered from the gall bladder the next day. Pratt reported in 1901 that typhoid bacilli were cultivated from the gall bladder, in twenty-one out of thirty cases, that came to autopsy in Boston City Hospital.

Quoting from Pratt, Peabody and Long: "The micro-organism becomes widely disseminated throughout the body. In one case Pratt recovered it from the heart's blood, the spleen, the liver, the kidney, a mesenteric lymph node, the gall bladder, the urinary bladder, the right middle ear, and the bone marrow. It has been isolated from the urine in about 25 per cent of all cases examined. (Jacobi, 33 Munich 34). Petruschky calculated that in one of his cases each c. c. of urine contained 172,000,000 typhoid bacilli, and Gwynn estimated that 500,-000,000 per c. c. were present in a case he reported. A number of recent investigators have found typhoid bacilli more often in the urine than in the stools. Among 98 convalescents studied by Herbert, only three showed typhoid bacilli in their stools, while they were present in the urine of eighteen. He found they occurred in the urine in large number, in the stools only in small number. The presence of typhoid bacilli in rose spots is well known. It has been found repeatedly in the sputum when bronchitis was associated with the typhoid infection (v. Stuhlern, Richardson, Dieudonne, Drigalski, Jehle and Rau). Dieudonne recovered typhoid bacilli from the sputum seven weeks after the fever had disappeared." (Journal American Medical Association. Page 849.)

As to the excretion of typhoid bacilli Dr. Albert says: "We have for some time known that typhoid bacilli are excreted by a typhoid fever patient, probably in all cases with the feces, and in 25 per cent of the cases with the urine. In many instances they are also excreted with the sweat, saliva, and nasal secretions."

So much for the excretory channels. These channels are the gateways through which typhoid bacilli are turned out into the world.

It now remains for us to inquire under what conditions these gates of infection are open. During an attack of typhoid fever, all the gates of infection are open, the urine, feces sweat and saliva are to be regarded as highly infectious, and precautionary measures adopted accordingly. And this applies with equal force whether the infection is from the B. typhosus or some other member of the typho-colon group—whether the case is a severe or mild one—whether long drawn out or quickly over—whether intestinal symptoms predominate, or whether they are relatively absent.

And then it should be borne in mind that, while ordinarily the patient ceases to harbor or excrete the bacilli soon after he recovers from the disease, this is not always the case. Sometimes patients excrete typhoid bacilli for weeks, or even months, and in some instances years, after an attack of typhoid fever. There is a case on record of which we have every reason to believe the individual has been intermittently excreting typhoid bacilli ever since he had typhoid fever 52 years ago.

And indeed there are cases excreting the typhoid bacilli that are not known ever to have had typhoid fever. Carrier cases these, and they are by no means medical curiosities. Dr. Albert read a paper before the A. P. H. A., at Winnipeg, last August on "Typhoid Bacilli Carriers." He had collected no fewer than sixteen epidemics of typhoid directly traceable to carrier cases. Some of these carrier cases had had typhoid fever and some had not.

Then bearing in mind that typhoid fever is a group disease, and that any member of the typho-colon group may produce it, and that it may vary in severity from a hardly noticeable indisposition to a quickly fatal infection, and that the disease is a primary bacteremia, and that the bile is a favorite culture medium for the bacillus, and that the germ is excreted in the urine, feces, sweat, and saliva, and that this excretion of organisms may go on not only during the disease and convalescence, but for months or years after—and that among people not known to have had the disease may likewise be carrier cases —I say, bearing all this in mind, it will be seen how utterly impossible it is to hope to prevent all cases of typhoid fever. The most that we can hope for is, by careful sanitation, to prevent its wholesale prevalence. But to prevent sporadic cases is a problem, the solution of which is beyond our conception at the present time.

And bearing this complex etiology in mind—the score of ways in which one may be unknowingly exposed to typhoid infection, the at-

tempt to trace with certainty the source of infection in a sporadic case of typhoid fever is, in most cases, hopeless.

Not so with an epidemic of typhoid. Epidemics have as distinct symptoms as individual diseases. Thus, an explosive epidemic of typhoid fever, in one of our towns or cities—if it is found that all those infected are using city water, and if it is further found that the disease prevails wherever the city water is used, and if it is still further found that little or no typhoid exists among those not using city water, then suspicion strongly rests upon the water supply as the source of the infection. If then, an examination of the water shows that it is sewage contaminated, the chain of evidence is stronger. Now if the water is all boiled before using, and the epidemic ceases, the evidence is complete that it was a case of water contamination. This is the story of what occurred at Bartow, Fla., in 1904.

But if the epidemic is confined to the route of a certain dairyman, suspicion will rest upon the dairy. If then it is found that some milker or some one whose duty it is to handle the milk has had typhoid fever, weeks or months ago and if he is examined and found to be excreting typhoid bacilli, then the presumption is that it is a milk epidemic. This is the story of what occurred in Savannah in 1906.

Again, if we find a number of cases occurring in a certain part of town, without regard to the source of water or milk, then some local cause is to be sought, such as open closets and flies to act as carriers of the infection.

And this is by far the commonest story of the origin and spread of typhoid fever. It is too well known at this time to make more than a passing mention of it. But it is too important to leave untouched.

Attention was first seriously directed to flies as distributors of typhoid fever during the Spanish American war, when Reed, Vaughn and Shakespeare reported their findings in the American army. But since that time fact after fact has been adduced, until now it is universally recognized that flies transmit more cases of typhoid fever, than every other mode of conveyance combined.

Last summer in a paper before the A. P. H. A., Dr. Batt showed that the lowest death rate from typhoid is in the larger cities where sewage is well disposed of, the next lowest is in the sparsely populated portions of the country. The larger aggregations of people without adequate methods of sewage disposal give the highest death rate from typhoid. In the light of flies, this is easily understood. When we remember that in towns of three or four thousand people, where there is no sewer system everybody has open closets. Then, when we remember that in towns of that size, there are to be found almost any time a few convalescents and carrier cases; [In Germany an examination of 1,700 persons was made to see how many were distributing typhoid bacilli. It was found that three per cent were. If this holds, our towns of three thousand ought to have nearly a hundred distributors of typhoid bacilli.] and then when we remember the habits of the house-fly—how he passes his larval and pupal stages in manure, and how in his adult life he doesn't leave off his early taste for stable and privy filth—though he adds a taste for table delicacies—how he goes to the open closet when the dining-room is closed and back to the dining-room when it is opened, and how it has been found that he may carry on his body no fewer than a hundred thousand organisms, such as his habits will cause him to collect—I say when we remember all this, the wonder is that typhoid fever is no more prevalent than it is.

To prevent fly infection the following hints are offered for the management of typhoid cases:

Typhoid fever is due to a very small vegetable organism, the typhoid bacillus.

These little germs grow in the human body in countless millions, and as they die and disintegrate they set free a poison which causes the symptoms of typhoid fever.

The typhoid fever germs are thrown off from a typhoid patient in all the excretions, that is, the stools, urine, sputum, and perspiration.

Hence all these excretions are to be regarded as highly infectious, that is, they are full of typhoid germs.

Good management of a typhoid fever case has for its object the prevention of these germs reaching other people and producing other cases of typhoid. To this end the excretions, that is the urine and stools, of typhoid patients should all be either promptly emptied into the city sewer, or where there is no sewer connection, should be disinfected by the addition of ten per cent formalin equal in quantity to the amount of the material to be disinfected, and left to stand two hours, before final disposition.

All carpets, rugs, etc., should early be removed from the sick room.

Eating utensils used by the patient, should be removed from the room after each meal, in a dish pan, and the pan immediately filled with *boiling* water and left to stand fifteen to twenty minutes before washing.

Soiled bed linen, night gowns, etc., should be moved from the room in a large vessel, say a zinc pail or tub, and covered with *boiling* water. Better still, set them on the stove and let them boil awhile.

Only the person attending the patient should be in the sick room.

The attendants should always wash their hands carefully after touching the patient or bedding, for the bedding, it must be remembered, is also infected.

Flies delight to visit the sick room, which is very annoying to the sick and very dangerous to the well, for flies passing from the bed of the sick to the food of the well, contaminate the food and produce other cases of typhoid fever. If possible, the sick room should be screened and all flies kept out.

After the case is terminated the room should be thoroughly cleaned.

By careful sanitation, epidemics can be largely prevented, but it will not reach individual cases. They will continue to occur with more or less frequency, however carefully the most approved sanitary code is observed.

But the individual is not left without hope of protection. The outlook is that vaccination against typhoid fever will eventually be a common procedure—not so common as vaccination against smallpox perhaps—but within easy reach of all who wish to avail themselves of it. It is now practiced on a large scale in the English Army. It was introduced by Wright, but has been modified by Leischman.

The essential features of the process are as follows:

Typhoid bacilli are incubated at 37° C. twenty-four to forty-eight hours. Either virulent or non-virulent strain may be used.

They are killed by heating to 53° C. for one hour. This is the lowest point of temperature that can be trusted to kill all bacilli in that length of time.

By cultural methods they are then tested for absolute sterility.

Twenty-five per cent lysol is then added to prevent subsequent contamination.

It is standardized by mixing a definite volume of the vaccine with a smaller volume of blood of known dilution, making a smear, staining and counting the relative number of bacteria to the number of blood cells, from which the strength of the vaccine can be computed.

A quantity equal to 500 million dead typhoid bacilli are now injected into the subject it is proposed to immunize.

This causes a local reaction and constitutional symptoms, which subside in twenty-four to forty-eight hours.

After a lapse of ten days a second injection is given equal to one billion dead bacilli.

The local and constitutional reaction is less pronounced than after the first injection.

The immunity thus set up is an active one and lasting.

The available statistics, strongly indicate that the protection is relatively complete.

But vaccination with the B. typhosus does not afford complete protection against other members of the typho-colon group.

SUMMARY.

1. Typhoid is a group disease, due to the B. typhosus most frequently, but not uncommonly due to other members of the typho-colon group.

2. Typhoid is essentially a primary bacteremia, the bacilli first gaining entrance to the blood stream, but not multiplying here to any appreciable extent; from here they soon take up lodgment in the gall-bladder, where they find an excellent culture medium and multiply freely, and are freely emptied into the intestine.

3. In the gall bladder they frequently exist for a long time after typhoid fever, producing in some instances gall-stones, and probably in all instances are passed off in the feces in such numbers as to be recognized as carrier cases.

4. The human being then distributes typhoid bacilli during the disease, during convalescence, and frequently for years after as carrier cases, and indeed some carrier cases seem never to have had typhoid fever at all—it may be that such cases have had the disease so mildly as to be overlooked.

5. Typhoid bacilli, that is, members of the typho-colon group are also harbored and distributed by certain domestic animals, as B. typhimuriun by the calf, B. psiticosis by the parrot.

6. The most accurate means of diagnosing typhoid fever is by cultivating the bacillus from the blood of the patient, but this is practical only in hospital practice.

7. The most reliable and widely applicable test is the agglutination test. But the several members of the typho-colon group do not inter-agglutinate except in low dilution, (group agglutination).

8. The agglutination test should accordingly be made with the commoner member of the typho-colon group before reaction is pronounced negative.

9. Epidemics of typhoid fever have epidemic characteristics, according to the source of distribution of the infection.

10. Epidemics of typhoid may be traced to the source of infection, but single cases, rarely, if ever, can.

11. Epidemics can be prevented by careful sanitation, but single cases can not.

12. Typhoid fever can be prevented in the individual by immunization with dead cultures of the B. typhosus.

REPORT OF COMMISSION ON TYPHOID FEVER AND GASTRO-INTESTINAL INFECTION FROM OYSTERS

At the last meeting of the Academie de Medicine Professor Netter made a very full report on typhoid fever and infectious accidents following the ingestion of oysters and the measures to be taken to prevent their recurrence. On February 5th Professor Netter made a communication to the Academie on typhoid fever and gastro-intestinal troubles following the eating of oysters from Cette. A special Commission was appointed, consisting of M. M. Chantemesse, Chatin, Edmong, Perrier, Vaillard, and Netter as reporter (vide *British Medical Journal,* February 16th). To the 120 cases contained in his first communication Professor Netter is now able to add 155 new cases. No fewer than 262 cases of gastro-intestinal infection, including 63 cases of typhoid, were traced in less than five months—from September, 1906, to January, 1907, from the railway station at Cette 390 tons of oysters were sent away by express train, and 749 tons of oysters by slow trains, to stations on the coast of France where there are existing oyster beds. The list of cases described occurred in thirty different localities in France and two abroad (Geneva and London). After describing the epidemics of Winchester, Southampton, Middletown (Connecticut), and Sables d'Oloure in France, and experiments proving that oysters can take up and keep pathogenic bacteria for a certain time, the special Commission recommends certain measures to be taken to prevent the contamination of oysters, directly or indirectly, either at the oyster bed or from the time the oysters are collected till their arrival at the table of the consumer. The maritime authorities should institute an inquiry which shall be topographical, chemical, and bacteriological, which should include all oyster beds, whether they be natural beds, or artificially made for rearing, fattening, or keeping oysters prior to their being gathered for sale. Those beds only should be allowed which are recognized on inquiry as being healthy, or in which the required measures have been put into operation, and these

beds should be under regular inspection. Regulations forbidding the pollution of water courses should be strictly applied by municipalities in the neighborhood of oyster beds.

Natural beds in which the sanitary conditions are doubtful shall only be authorized to be dragged during the season when there is no danger of the oyster being sold. Those oysters can then be taken away by owners of oyster beds and left for a sufficient length of time to assure the oyster being cleansed. The transport and the sale of these oysters shall be under inspection, to prevent contamination in transit, or at the wholesale or retail establishments. Foreign oysters shall not be allowed to enter the country, unless grown under similar restrictions as French oysters, and shall be provided with a certificate indicating their origin. The discussion and vote on these conclusions will take place at the next meeting of the Academie. (*British Medical Journal,* May 18, 1907.)

SEPTIC TANKS

Queer things, these septic tanks! You just run raw sewage in at one end, and you don't put any chemicals or anything else in but the sewage, and you see nice clean water come out at the other end. Queer, isn't it?

They have one at Tallahassee. Two, in fact—a large one and a smaller one. And they have one at Gainesville, and one at Lake City, and a private one near Jacksonville, and Bartow will probably put in one.

It is the coming method of sewage disposal for our inland towns.

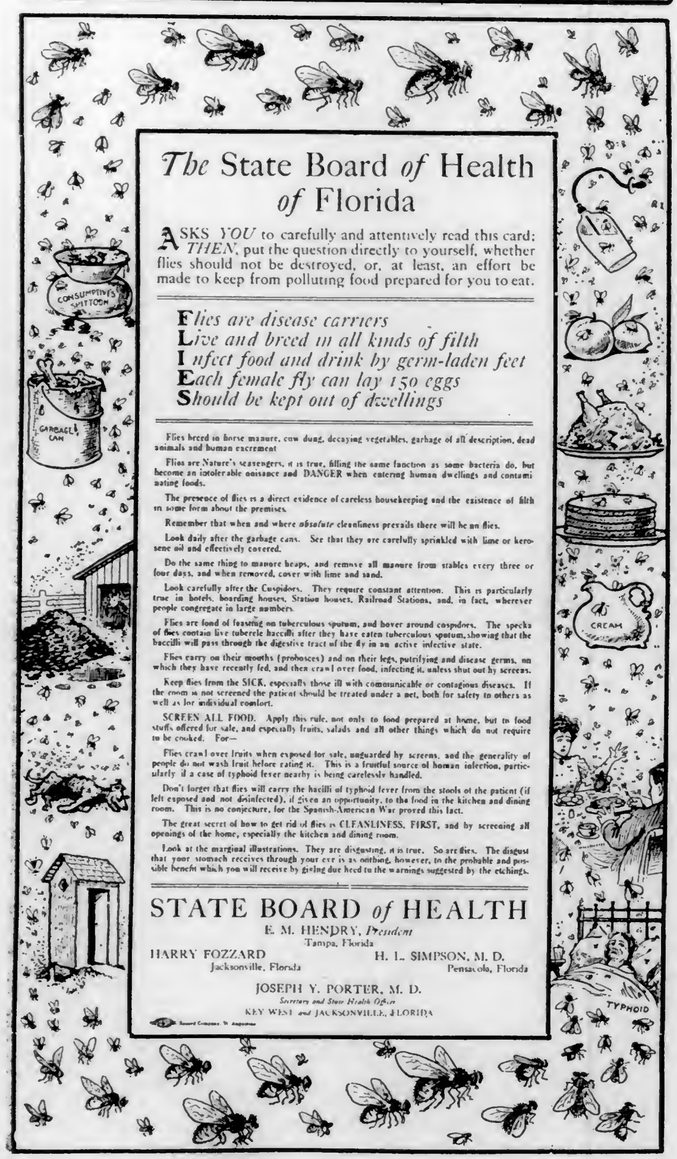
It is the ideal for the country home. They are being made suitable size for a single family, or for two or three families. The cess pool is getting to be a thing of the past and rightly so.

As a safeguard against typhoid fever, proper disposal of sewage is second only to elimination of flies.

The cut on the following page is a reduced copy of a large poster prepared by the State Health Officer and distributed throughout the State. It is a graphic and gruesome dissertation on the habits and possibilities for harm of the "typhoid fly" commonly known as the house fly. The poster excited a great deal of comment throughout the country, which has occasioned a great demand for it. It has been reproduced many times.

It is now generally conceded that flies are responsible for more cases of typhoid than water, milk, and finger infection combined.

From FLIES *and* FILTH *to* FOOD *and* FEVER



The State Board *of* Health *of* Florida

ASKS *YOU* to carefully and attentively read this card: *THEN*, put the question directly to yourself, whether flies should not be destroyed, or, at least, an effort be made to keep from polluting food prepared for you to eat.

F*lies are disease carriers*
L*ive and breed in all kinds of filth*
I*nfect food and drink by germ-laden feet*
E*ach female fly can lay 150 eggs*
S*hould be kept out of dwellings*

Flies breed in horse manure, cow dung, decaying vegetables, garbage of all description, dead animals and human excrement.

Flies are Nature's scavengers, it is true, filling the same function as some bacteria do, but become an intolerable nuisance and DANGER when entering human dwellings and contaminating foods.

The presence of flies is a direct evidence of careless housekeeping and the existence of filth in some form about the premises.

Remember that when and where *absolute* cleanliness prevails there will be no flies.

Look daily after the garbage cans. See that they are carefully sprinkled with lime or kerosene oil and effectively covered.

Do the same thing to manure heaps, and remove all manure from stables every three or four days, and when removed, cover with lime and sand.

Look carefully after the Cuspidors. They require constant attention. This is particularly true in hotels, boarding houses, Station houses, Railroad Stations, and, in fact, wherever people congregate in large numbers.

Flies are fond of feasting on tuberculous sputum, and hover around cuspidors. The specks of flies contain live tubercle bacilli after they have eaten tuberculous sputum, showing that the bacilli will pass through the digestive tract of the fly in an active infective state.

Flies carry on their mouths (probosces) and on their legs, putrifying and disease germs, on which they have recently fed, and then crawl over food, infecting it, unless shut out by screens.

Keep flies from the SICK, especially those ill with communicable or contagious diseases. If the room is not screened the patient should be treated under a net, both for safety to others as well as for individual comfort.

SCREEN ALL FOOD. Apply this rule, not only to food prepared at home, but to food stuffs offered for sale, and especially fruits, salads and all other things which do not require to be cooked. For—

Flies crawl over fruits when exposed for sale, unguarded by screens, and the generality of people do not wash fruit before eating it. This is a fruitful source of human infection, particularly if a case of typhoid fever nearby is being carelessly handled.

Don't forget that flies will carry the bacilli of typhoid fever from the stools of the patient (if left exposed and not disinfected), if given an opportunity, to the food in the kitchen and dining room. This is no conjecture, for the Spanish-American War proved this fact.

The great secret of how to get rid of flies is CLEANLINESS, FIRST, and by screening all openings of the home, especially the kitchen and dining room.

Look at the marginal illustrations. They are disgusting, it is true. So are flies. The disgust that your stomach receives through your eye is as nothing, however, to the probable and possible benefit which you will receive by giving due heed to the warnings suggested by the etchings.

STATE BOARD *of* HEALTH

E. M. HENDRY, *President*
Tampa, Florida

HARRY FOZZARD, Jacksonville, Florida
H. L. SIMPSON, M. D., Pensacola, Florida

JOSEPH Y. PORTER, M. D.
Secretary and State Health Officer
KEY WEST *and* JACKSONVILLE, FLORIDA

The highest sick rate from typhoid fever is not found in the sparsely populated communities, nor yet in the larger, well-kept cities. Beginning in the country, the typhoid rate gradually increases as the density of population increases. The little towns have a higher rate than the country, the larger towns a higher rate than the smaller, and so till the highest rate is found in the largest aggregation of people up to a point where sewage is properly disposed of. When that point is reached, the typhoid rate suddenly drops even below the typhoid rate in the country. Open closets and flies.

It should be the ambition of every growing town to early arrange for sewage disposal, and to arrange for it properly. It must come sooner or later and the sooner the better. It may save an epidemic and many lives.

THE BATTLE OF THE MICROBES

The Merchants' Association of New York is doing more than the name would imply. Some time ago they got out a pamphlet on the pollution of water in New York harbor, and one on the fly as a transmitter of disease. Now they come forward with a nice little brochure on sewage disposal in general. The pamphlet is small, perhaps a half hour's reading, but it is a half hour well spent. The following is the preface:

NATURE'S FIGHT FOR PURE WATER.

"The destruction of human and animal waste is accomplished by two kinds of microbes. These micro-organisms are known as anaerobic and aerobic. The anaerobic are those which live without oxygen and the aerobic are those which require air for their maintenance. There are also other microbes of numerous kinds which are the germs of disease. The first class of microbes are antagonistic to the other, and when brought in contact wage relentless warfare until nothing is left of the disease germs and sewage but water—pure water—and harmless chemicals in solution.

"This purification transformation is known as nature's process and is essential for the removal of all waste organic matter which would tend, if left alone, to produce disease and death.

"Mankind calls on nature to exercise her functions while he facilitates her sanitary workings by providing suitable appliances or surroundings by which these micro-organisms can perform and complete their lifework rapidly and effectively.

"In the sewage disposal plant at Saratoga Springs, N. Y., an illustration of the employment of nature's forces is afforded. That which was the rankest of sewage in the sewer-pipes of the village is, in twenty-four hours or less, transformed into pure water. The writer, with others, has drunk of this pure water, dipped from the trough leading from the disposal works.

"There has been a great increase in the last few years of popular interest in sewage disposal. Yet it has been difficult to dispel the indifference of the public to the dangers of neglected sewage and to stir it to practical action on this all-important question. This is largely due to the fact that there has hitherto been no handbook dealing with the subject in terms easily understood by the layman.

"It is the purpose of this pamphlet, in which are summarized the views of American and British sanitary experts, to supply this lack, and by giving the public exact information as to the various methods of the sanitary disposal of sewage, to hasten the time when the barbarous practice of turning lakes into cesspools and rivers into open sewers shall have ceased to be a reproach to American civilization.

"The discussion of this subject by the members of the British Royal Sewage Commission and by Mr. Collins is of necessity general, and it must be borne in mind that, as the character of the sewage and sewage conditions vary widely, no two communities, perhaps, having quite the same problem, it is impossible to prescribe a universal method of treating sewage so as to render it harmless. It is necessary to consider carefully all the elements entering into the sewage problem of each city and to apply to them, as far as may be, the principles which have been established by the experience of cities in which similar conditions prevail; there can be no cure-all in the treatment of the sewage evil. Methods of treatment, cost and results will all vary in different towns having varying conditions and industries and consequently sewage of altogether different quality.

"This committee does, however, feel justified in condemning unreservedly the method of crude disposal by emptying sewage into rivers or lakes. While the stream into which the sewage is discharged may have a sufficient volume of water to dilute it, the thorough mixing of sewage and water may not take place—a mass or layer of undiluted sewage often floating with the water on both sides of it—and a grave nuisance may result. Any form of sewage discharge without some degree of purification treatment is to be condemned. In the beginning the practice may be harmless, but it is sure, as the population increases, to be come a dangerous and intolerable nuisance."

Record Co. St. Augustine, Fla.

Record Co. St. Augustine, Fla.

FLORIDA Health Notes

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HON. E. M. HENDRY, President, Tampa, Fla.
HON. H. L. SIMPSON, M. D., Pensacola, Fla.
HON. JOHN G. CHRISTOPHER, Jacksonville, Fla.
EDITED BY
JOSEPH Y. PORTER, M. D., Secretary and State Health Officer.
HIRAM BYRD, M. D., Assistant State Health Officer.
Offices:
Jacksonville, Dyal-Upchurch Building.
Key West, Room 10, Monroe County Court House.
Laboratory: Jacksonville, L'Engle Building.

Sent to any address in the State for the asking.

If you receive it without asking, it means that someone else has requested it for you.

When you change your address drop us a card.

When giving change of address, give both the old and the new.

Anything you want to know about the public health we will try to tell you.

Any information you want about diseases of domestic animals we will help you to get.

"Konsider the postage stamp, my son; its usefulness konsists in its ability to stick to one thing until it gets there."—*Josh Billings.*

FROM THE NOTES' SCRAP BOOK

The Legislature of 1909 was as equally generous in adding to the responsibilities of the State Board of Health as in diminishing the "sinews" for executing the increased work. The Legislators must have known, if a moment's thought had been given to the subject, that necessarily a greater outlay of funds would be required to perfect these betterments to the public health which they were adding to and imposing upon the State Board of Health. The State Health Officer had for years been "nursing" the State Health Fund for the purpose of acquiring a sufficient amount from a reserve fund by which a modern laboratory and executive office building could be constructed, and a tuberculosis sanitarium for the indigent of the State provided for, without encroaching seriously upon a minimum which at all times should be considered for possible exigencies of epidemics of communicable diseases, to say nothing of what is needed for the usual monthly current expenses for maintaining the "running expenses" of the Board. Sixty thousand dollars of the State Health Fund has by legislative enactment been diverted to relieving a stringency in another department of the State Government. Therefore; the Board finds itself at the ending of the legislative session of 1909 with duties calling for manifold expenditures but with assets divided.

The Legislature of 1909 manifested its confidence in the ability, integrity and usefulness of the State Board of Health to the people by consenting to all requests made for improving the public health service of the State, and the State Board of Health and the State Health Officer wishes thus publicly to thank the members of the Legislature collectively and individually for such a handsome expression of trustful faith.

With no intention of *lese majesty,* however, it must be regretted that there should have been a disposition to interfere with the State Health Fund because another department of the State had fallen short. The NOTES has not forgotten the experience of the State Board of Health in 1899. The embarrassment and worries of that summer are still vivid in memory of that distressing period, and to avoid a repetition of the occurrences of that year the State Health Officer had built up a bulwark against any possible widespread prevalence of epidemic disease in the State, that health, life and continued prosperity of the State might not be retarded through lack of money to protect, as was threatened in the early days of the Board's life.

THANKS

The State Board of Health is ever ready and is always exceedingly anxious to express gratitude to whoever does a service to the cause of Good Health in Florida; therefore, it is not unbecoming that mention should be made and the people of the State be informed through the HEALTH NOTES, that Senator Hunt Harris, of Monroe, and Representative Miller, of Lake, by their persistent work and convincing argument at this last session of the Legislature brought to a successful termination the passage of measures which the State Board has so earnestly struggled to obtain for the past fifteen years. At no time of the Legislative session was there any expressed opposition to the recommendations of the Board which had been formulated into bills, but other measures perhaps which the NOTES thinks not so important as those advocated by the Board seemed to be of more engrossing interest to the members of both Houses, and the State Board of Health Bills, as they were called, were "side tracked" so to speak, from time to time, to be considered at a more convenient season. The measures had been taken care of by the Senate during the first month of the session, but as stated, dragged in the House until the last week of the session, when Representative Miller asked for unanimous consent to take up the Bills out of their regular order, explaining the necessity for the same. In ten minutes they were ready for the Speaker's signature; the House apparently having such confidence in the integrity of the State Board of Health and its management decided speedily that only just and needful requests would be asked for, and promptly passed the bills. The psychological moment had arrived to present the claims of the Board to the House, and Representative Miller was quick to grasp the auspicious instant.

The NOTES speaking for the Board does not wish to be understood as making invidious distinction of the friendly attitude of members in their efforts to assist the Board, but the two who took a prominent part in the drama are certainly entitled to special mention.

"Palmam qui meruit ferat."

DON'T KILL THE DOG

If he has rabies he will soon die.
Then send head to laboratory packed in ice.
DON'T KILL THE DOG!

With many thousands of dollars to be paid from the State Health Fund—or from what remains of it after Legislative pruning—for

horses and mules which have had glanders in the State during the past two years; for a tuberculosis sanitarium for the indigent of the State, which means necessarily for both races; continued payment for the Pasteur treatment to such citizens of Florida as have been bitten by rabid animals, together with the current monthly expenditures for maintaining the institution known as the State Board of Health, the NOTES thinks that it is going to be a "close shave" for the State Board of Health to make both ends meet financially at the close of the year.

If Providence favors the State and the citizens assist the Board, so that with the blessing of one and the cooperation of the other, sickness can be kept down and no epidemic pestilence find entrance, this financial problem can be met. Otherwise, the State Board of Health will have to borrow from another branch of the State Government that is for the moment plethoric in funds.

THE PRACTICE OF MEDICINE

The laws of Florida allow certain people to practice medicine—without examination or other ceremony—anybody in fact except those who have taken a regular course in a reputable medical college. The last class has to stand examination and get a license.

In veterinary medicine, even the graduates are not examined.

BOOK REVIEWS

"Tuberculosis—a Preventable and Curable Disease," is the title of a book of nearly 400 pages, recently out, by Dr. S. Adolphus Knopf. Moffat, Yard & Co., New York, $2.00 net.

It is a very complete handbook on tuberculosis and could be read with profit by every person in the land. The information it contains is of the most vital importance, well told, and with scientific accuracy. Its opening motto is:

"To combat tuberculosis successfully, requires the combined action of a wise government, well-trained physicians, and an intelligent public."

This motto, by the way, has a history. Ten years ago the International Congress on Tuberculosis met in Berlin. Two merchants of that city offered a prize of 4,000 marks, (about $1,000.00) for the best essay on: "Tuberculosis as a Disease of the Masses, and How to Combat It." Those contesting for the prize were not to give their names, but the essays were to be known by some motto. There were eighty-one contestants, and the essay that won the prize was the one

having the above mentioned motto. Then it was found that the essay was written by this same Dr. Knopf. The motto, and the essay, and the prize were all his.

The amount of study that has been given to tuberculosis, and the amount of literature that is to be had on this subject, is inconceivable. It would fill a library. It would take years to read and digest it. Few can spare the time to do it, fewer still have access to all this mass of literature, and still fewer those inclined to give it so much personal study. But most people ought to have some general information on tuberculosis, and a great majority of the reading public knows more or less about it picked up here and there. This work brings together the vital facts, the things that everybody should know, into small compass, and puts them within easy reach of all.

The author deserves great credit for the painstaking manner in which this work is prepared, the careful discrimination as to how voluminous a work of this popular, yet scientific, nature should be, and the careful selection of the facts vital regarding tuberculosis.

People who lead lives in which they breathe a great deal of dust have a high mortality rate from tuberculosis. Thus the grinders in cutlery factories give a very high death rate from what used to be called "grinder's disease," now known that it is tuberculosis.

Pullman porters likewise give a high death rate from tuberculosis.

Breathe clean air when you can.

PURE MILK FOR JACKSONVILLE

DUVAL COUNTY MEDICAL MILK COMMISSION AT WORK UPON THIS PROBLEM

RESULTS OF THE YEAR'S WORK.

In June, 1908, following upon some agitation of the question of the milk supply of Jacksonville, the Duval County Medical Society entered upon an investigation of the subject, and created a special Commission from among its members, known as the Duval County Medical Milk Commission. To this Commission was entrusted the task of determining the status of the city milk supply, and of devising ways and means for bettering it.

The Commission first made a close personal inspection of all the dairies supplying the city. Wholesome milk is clean milk, and it is a well demonstrated fact that milk can not be cleaner than the surroundings in which it is produced, hence the Commission very prop-

erly judged the output by the conditions found at each dairy. It at once became apparent that a large amount of radical change was necessary.

In deciding upon the best methods to pursue in bringing about this change, the Commission concluded that it would first concentrate its efforts upon one dairy and endeavor to secure from that source a supply of milk which should come up to the Commission's standards, and then, having secured a pure milk, to attract public attention to it and then arouse interest in the entire subject. A public informed of the conditions which produce pure milk would soon demand the necessary reforms among the dairies, as a matter of commercial survival.

In determining upon the dairy man the Commission was governed by three factors, namely: 1st—Best present condition of dairy. 2d—Intelligence. 3d—Willingness to co-operate.

Such a man was found, and, working under the Commission's directions, he has steadily improved conditions at his dairy in an effort to produce a cleaner milk. His cattle have all been tested for tuberculosis and none found; they are healthy Jersey and Holstein stock. The milk which the Commission recommends is produced from selected animals; milked in a stable which is flushed out with hose daily, free from dust and flies as possible. Each udder is wiped off before milking; the milking is done by white men who wash their hands beforehand; the pails are of special pattern, protected by layers of cheesecloth and cotton to catch any stray hairs or bits of dirt. The milk is cooled at the dairy, bottled in clean bottles, iced and kept iced until delivered. It is a good rich milk, produced under unusual conditions of cleanliness, cooled and kept cold, and sells for fifteen cents a quart. It is not certified milk; not yet. The Commission hopes and expects that it soon will be. Various changes at the dairy are contemplated, each one with the idea of bettering the output. Whenever this milk satisfies all the requirements of the Commission it will be certified.

The Commission will endeavor by articles in these columns from time to time to show just what the best modern ideas of milk producing are, what constitutes pure milk; how the housekeeper may readily detect impure milk; what the weak points in the present milk supply are, the importance of cooling milk; the liability of milk to convey disease and kindred subjects. The Commission's labor is to raise local standards and secure an abundant supply of clean, pure, wholesome milk. Its object should meet with the sympathy of every household in the city. It is antagonistic to no dairy. Although there are undoubtedly dairies today supplying Jacksonville whose milk is only fit for the sewer, the Commission feels that that kind of dairy must brace up its methods or cease to do business, when the public becomes aroused to demand pure milk. The Commission receives no compensation and has done its work without funds.

It is ready to explain its methods and its standards at any time to any interested person, and communications may be addressed to The Duval County Medical Milk Commission, Jacksonville, Fla.

LIFE AND HEALTH

At every stage in the growth of our country, strong men grew stronger, through the exercise of nation building, and their intelligence and patriotism grew with their strength. The spirit and vigor of our people are the chief glory of the republic. Yet even as we have neglected our natural resources, so have we been thoughtless of life and health. Too long have we overlooked that grandest of our resources, human life. Natural resources are of no avail without men and women to develop them, and only a strong and sound citizenship can make a nation permanently great. We cannot too soon enter on the duty of conserving our chief source of strength by the prevention of disease and the prolongation of life.

Waste reduced and resources saved are the first but not the last object of conservation. The material resources have an additional value when their preservation adds to the beauty and habitability of the land. Ours is a pleasant land in which to dwell. To increase its beauty and augment its fitness cannot but multiply our pleasure in it and strengthen the bonds of our attachment.

In the conservation of all the resources of the country the interest of the present and all future generations is concerned, and in this great work, involving the welfare of the citizen, the family, the community, the State, and the nation, our dual system of government, State and federal, should be brought into harmonious co-operation and collaboration.—*Extract from Report of the National Conservation Commission.*

THE TOXICITY OF TOBACCO SMOKE

Ever since its introduction the question of the harmfulness of tobacco smoking has been much debated by all classes, and in spite of the most powerful denouncement of it by professional men it has continued to be used all over the world. The general consensus is that moderation is not harmful and in some cases beneficial; of course

moderation must be used relatively to the individual. The environment is important, e. g., all know that more tobacco can be tolerated in the open air, and when one is leading an open air life, than with confinement and sedentary habits. Nicotine has generally been regarded as the powerful poison causing the harmful effects of smoking, but it is now known that the greater part of nicotine is destroyed in the combustion of the tobacco and very little indeed escapes into the system. It is also known that pyridine is a powerful poison and enters in considerable quantities into the body. More recently it has been recognized that tobacco smoke contains a large proportion of carbon-monoxide gas which is exceedingly poisonous and enters into combination with the haemoglobin of the blood and produces prolonged effects. The *Lancet* recently gave some interesting facts proving that the disagreeable effects of tobacco smoking were due to carbon-monoxide and not to any agents of the drug. Therein it is stated that one ounce of tobacco, when smoked, gives as much as one to four pints of carbon-monoxide gas in the form of a cigarette, whilst the same amount smoked in a pipe gives 2½-5 pints of the gas—seeming to make out the pipe to be more injurious. As a matter of fact it must be considered that smoke from a pipe is very rarely inhaled, whilst that from a cigarette is invariably inhaled, and hence the cigarette is still the more harmful. Dizziness, shortness of breath and cardiac disturbances are symptoms found when the tobacco is smoked in excess, and these, too, are also produced by carbon-monoxide. As small a quantity as 0.1% per cent. when mixed with air causes distress, and so we can understand how in pure air smoking is less injurious. Thus to carbonic monoxide gas must be laid the cause of the distressful symptoms of excessive smoking, and of the effects of foul tobacco air in ill ventilated railway carriages. The moral is obvious and the preventive measures easy.—*Indian Public Health and Municipal Journal.*

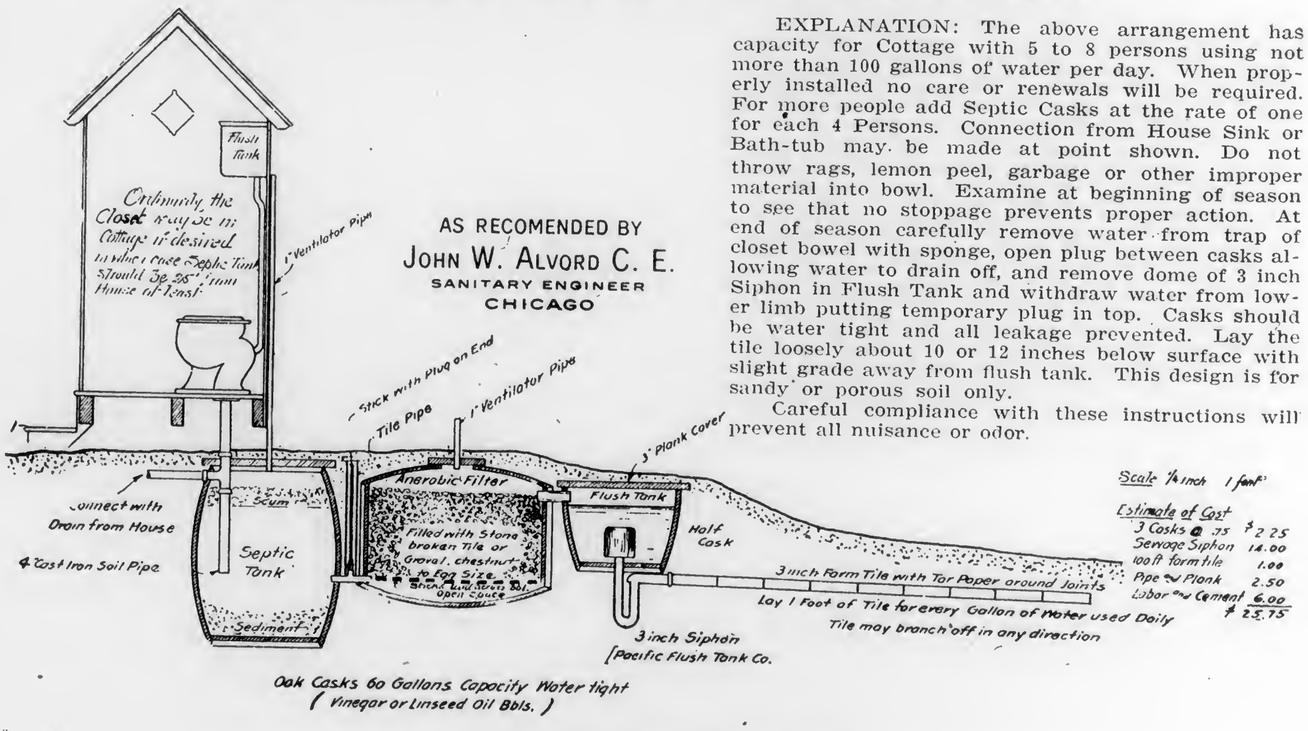
PRIVATE SEWERAGE

SEWAGE DISPOSAL PLANTS FOR SMALL HOUSES.

The widespread installation of water-closets in country houses and in towns where no general sewerage system is in use, has created a demand for some form of sewage disposal plant that is cheaply and easily installed and gives efficient service without offense or unnecessary trouble.

"No system has as yet been devised, for a reasonable cost, which

PLAN SHOWING METHOD OF SEWAGE DISPOSAL



EXPLANATION: The above arrangement has capacity for Cottage with 5 to 8 persons using not more than 100 gallons of water per day. When properly installed no care or renewals will be required. For more people add Septic Casks at the rate of one for each 4 Persons. Connection from House Sink or Bath-tub may be made at point shown. Do not throw rags, lemon peel, garbage or other improper material into bowl. Examine at beginning of season to see that no stoppage prevents proper action. At end of season carefully remove water from trap of closet bowel with sponge, open plug between casks allowing water to drain off, and remove dome of 3 inch Siphon in Flush Tank and withdraw water from lower limb putting temporary plug in top. Casks should be water tight and all leakage prevented. Lay the tile loosely about 10 or 12 inches below surface with slight grade away from flush tank. This design is for sandy or porous soil only.

Careful compliance with these instructions will prevent all nuisance or odor.

meets all conditions existing in the State. Nevertheless, where the soil is sandy or porous, simple systems are working with great satisfaction. The plant illustrated in Cut No. 1, is from a design furnished through the courtesy of Mr. John W. Alvord, an eminent sanitary engineer, of Chicago. This plant can be made from materials easily procured and can be installed by any practical man. The only part of the plant which has to be ordered from a distance is the automatic syphon, and this can be furnished by any plumbers' supply house. This syphon should be of good quality and preferably of cast-iron. The drain tile should be laid with great care, almost on a level, and about ten or twelve inches below the surface of the ground. The joints should be wrapped lightly with tar-paper, to prevent soil from choking the pipe.

"This system will work well where soil is not heavy, and gives little trouble to the owner. Clay soil will not take up the liquids of the sewage and hence will not be satisfactory for the operation of this system. The clay soil of the Piedmont section of Virginia is too heavy for this form of plant.

"PLANTS FOR LARGER HOUSES.

"The plant described above, in which barrels are used for tanks, is only suitable for small cottages. For larger houses, it is necessary to substitute tanks of brick or concrete in place of the barrels, and to use drain tile in larger quantity.

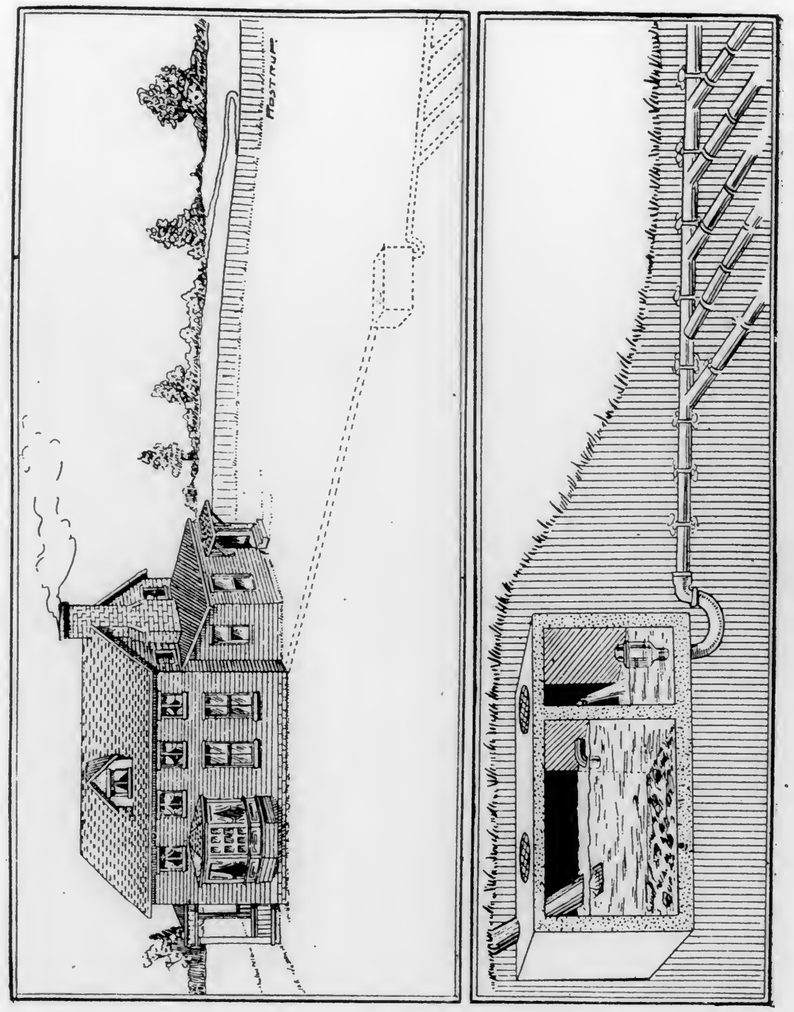
"In general, the septic tank for such a system should provide for about twenty-four hours' flow sewage, allowing 50 to 75 gallons per day for each person using the sewer. The pipes entering and leaving the tank should be arranged as in the diagram, Cut 2. The flush tank should be about half as large as the septic tank. The tile should be laid in such a manner as to allow one foot of 3-inch pipe for each gallon-capacity of the flush tank. The general arrangement of the system is well illustrated in Cut 2.

"While the Health Department cannot, of course, undertake to design individual plants, it stands ready to give advice or suggestion upon request, wherever possible. Plans for sewage plants adapted to use in soils similar to the clays of Virginia are being prepared and will shortly be published in the *Bulletin*."—*Virginia Health Bulletin*.

Did you ever put to flight a swarm of flies congregated about a sugar bowl? How clean it looks when they are gone!

And how soon they return when you are gone!

Thus with dust and a feather duster.



No. 2. VIRGINIA HEALTH BULLETIN

WAR ON THE HOUSE FLY

(The following communication from Mr. Parmenter to the *Times-Union* is worthy of consideration. Mr. Parmenter is the honorable mayor of Orange Park, and if there is anything in reading a man's character from his writing I would venture he is one of Florida's best citizens):

"*Editor Times-Union*: Much has been published on the subject of the house fly, but I have not seen any specific directions for the prevention of breeding, which is the one important thing.

"The government prints a pamphlet on household insects which tells much about the house fly, as well as other pests. It is Bulletin No. 4, new series, Department of Agriculture, Division of Entomology. It can be had for the asking.

"With the help of this pamphlet some advice from Mr. Rolfs, of the Florida Experiment Station, and my own ingenuity I have put in use a method for the prevention of the breeding of flies, which is a success. The method described is the one recommended by the government and the experiment station.

"Flies lay eggs in various kinds of filth—rotting meat or vegetables, for instance, but the principal breeding place is the horse stable. A fly will lay 120 eggs at one time. The eggs hatch in a few hours. The fly is grown in ten days.

"The method of preventing breeding is to see that no filth is left exposed anywhere about the place and to clean out the horse stable thoroughly every morning and put the refuse in a covered pen so arranged that when the flies are hatched they cannot get out. Then they die for lack of water.

"If the owner of the stable lives in the country, and there are no other stables near this plan works well. If there are several stables in a neighborhood the plan must be regularly followed by all the owners. Flies, however, do not go far from their birthplace as a rule, if they can find anything to eat at home. Cow stables breed the blue bottle or blow fly, but probably not the house fly to any extent. It would do well, however, to clear out the cow stable or yard every day. The refuse must be carefully and thoroughly removed every morning, and after clearing out it is well to sprinkle air-slaked lime or chloride of lime in the stable, especially in corners.

"The pen should be of a size to suit conditions. Nine-five by sixteen is a good size for a one-horse stable. This gives an opportunity to work over the compost until the heat is out of it. Then it can be

taken out and flies will not breed in it. Their instinct teaches them to lay their eggs where there is heat. Board up the sides four feet high, put a shelter overhead about eight feet up covered with slats, which will give shade and let rain through. Shade the west end also with slats from the afternoon sun. Cover the pen like a cold frame or hot bed with sliding frames covered with wire gauze, or a part might be covered with burlap for economy. The frames must be of a width to suit the width of the wire gauze. About four by nine will do. The ends of the frames rest on the side walls, and strips must be put across for the sides of the frame to rest on to make tight joints.

"It would be a good plan to have the middle section high enough to stand in for convenience in working the compost over, or the upper part of the walls might be of gauze, making the whole about 6½ feet high. This would cost more.

"These directions are for a farmer, who wishes to save his compost for use on the farm. For a city stable where the refuse is promptly removed the plan could be modified.

"Flies confined always go to the light, so the builder of the pen must use his ingenuity, and arrange it so that when he puts refuse in or takes it out the flies are on the top trying to get out through the gauze, and do not escape. The refuse can be carried from the stable in a railroad wheelbarrow, which can be run up on an inclined plank and the load dumped or a low door can be made. The refuse should go in at one end, and the compost be taken in at the other. The pen must be fly-tight. If the flies find a hole or crack they will go out in procession.

"For a city stable any tight pen would do, the only requirement being an arrangement that should prevent the escape of the flies when the pen is opened, which is best done by having a part high and tight and covered with gauze. The flies will go there and stay, trying to get out.

"I have tried this plan with success. The young flies appear in large numbers under the gauze, but they soon die.

"Flies are always attracted to fresh stable refuse, and they will gather over the pen outside trying to get in. A sheet or two of sticky fly paper tacked to a board and laid on top will catch many.

"When the proprietor finds that he is actually succeeding in preventing the breeding of the flies he gets interested, and is careful and regular in carrying out the system, and willing to take pains in small details. The result is well worth the trouble.

"Fortunately there is no other stable near mine, and while in pre-

vious years there have been many flies about, this season there are practically none. I watch for breeding places for mosquitoes also, and there are hardly any about. I have my doors and windows open, and no screens at all.

"There is much general interest just now in the destruction of insect pests, because they are an annoyance and a menace to health, but the only way is to get to the root of the matter, and see that they don't get born. No doubt after a time cities will enforce some such methods as the one described, but every breeding place must be regularly attended to. One neglected spot will fill all the neighborhood with the winged pests. W. E. PARMENTER.

"Orange Park, July 16."

LABORATORY CLOSED

The Bacteriological Laboratory of the State Board of Health is closed, pending the engagement of a bacteriologist, which it is hoped may be effected shortly. In the mean time the Hygienic Laboratory of the Public Health and Marine Hospital Service at Washington has kindly consented to examine specimens of blood for "typhoid," "malaria" and animal's heads for rabies which the Board may send, and accordingly all specimens of this character will be cared for as promptly as circumstances will permit. In the event of urgency and on request a report by wire will be made direct from the Washington laboratory but of course at the physician's expense.

A CLINICAL LABORATORY FOR TAMPA

Since the State Board of Health established a clinical laboratory, five years ago, it has gradually grown in popularity; the number of examinations increasing from year to year. This increase has been particularly marked since the publication of HEALTH NOTES became well established. This was begun three years ago, with a circulation of about four thousand, which has increased to over seventeen thousand now. It is the medium of communication between the State Board of Health and the public at large. Through it the hook-worm war has been largely waged. This alone has increased the work of the laboratory enormously. The number of letters received and specimens submitted for examination for the ova of hookworms are unbelievable. Eighteen specimens were received in one day for this examination alone.

The section of the State that has taken advantage of the laboratory most is that section nearest Jacksonville, because it is in Jacksonville that the laboratory is located.

But Tampa has run Jacksonville a close second. The physicians of that city and Hillsboro county have not slept over their rights to make use of "instruments of precision" in making diagnosis.

Last winter, just before the annual meeting of the Board, the Tampa Board of Trade, the Hillsboro County Medical Society and several other organized bodies together with a great number of physicians, petitioned the State Board of Health to establish a branch laboratory in Tampa. This the Board favorably considered but did not consider that it had the necessary authority. But when the Legislature convened, it gave the Board the needed authority.

On the 15th of July, the Board met and reorganized, and at this meeting considered the matter of establishing a branch laboratory in Tampa, which it was decided to do.

The Tampa authorities very promptly donated to the State Board of Health a desirable lot for the purpose of erecting a building, and the same will be placed under construction at an early date. The energetic action of the citizens of Tampa is to be commended. In six days after the Board signified its willingness to establish a laboratory there, contingent upon donation of a suitable site, the president of the Board of Trade wired that the site was donated and wanted to know when building would be begun. That is the kind of snap that will make Tampa grow. The State Board of Health will make good.

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SPECIAL GLANDERS NUMBER

FLORIDA Health Notes



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HON. E. M. HENDRY, President, Tampa, Fla.
HON. H. L. SIMPSON, M. D., Pensacola, Fla.
HON. JOHN G. CHRISTOPHER, Jacksonville, Fla.

EDITED BY
JOSEPH Y. PORTER, M. D., Secretary and State Health Officer.
HIRAM BYRD, M. D., Assistant State Health Officer.
Offices:
Jacksonville, Dyal-Upchurch Building.
Key West, Room 10, Monroe County Court House.
Laboratory: Jacksonville, L'Engle Building.

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When you change your address drop us a card.

When giving change of address, give both the old and the new.

Anything you want to know about the public health we will try to tell you.

Any information you want about diseases of domestic animals we will help you to get.

"If ye find that the Bullock can toss you, or the heavy-browed Sambhur can gore;
Ye need not stop work to inform us: we knew it ten seasons before."
—Maxims of Baloo, by Kipling.

INTRODUCTION.

This number of the HEALTH NOTES is devoted exclusively to glanders. The reasons for this are several:

I. We have had within the past few months two outbreaks of this disease of considerable magnitude.

II. The late Legislature took a hand to the extent of passing a bill looking to the eradication and control of glanders.

III. The responsibility of eradicating and controlling the disease is vested, by law, in the State Board of Health.

IV. Quite recently an interview has been published in the press of the State very freely, quoting Col. Scott, of West Point, and some excerpts from the Reports of the Army Veterinarians, which will be quoted below, and which are directly at variance with the views entertained by the State Board of Health of Florida.

V. It is due the State Board of Health that, in view of this, the public should know the grounds upon which its belief and policy are based.

VI. It is likewise due the public that it should know the rationale of the apparently drastic measures advocated by the State Board of Health.

VII. The management of communicable diseases, both among human beings and domestic animals, is easy and effective directly in proportion to the intelligent co-operation given by the public.

VIII. It is not the policy of the State Board of Health to resort to the "big stick," but to take the public in full confidence, and through its co-operative assistance, to eradicate communicable diseases and raise the standards of sanitation.

IX. This is the only practicable policy in the management of glanders where the health authorities are entirely at the mercy of the unscrupulous horseman, who can vitiate the only means of diagnosing occult glanders any time he so desires.

For these reasons it is imperative that the Board should make its position clear.

THE BOARD'S VETERINARY EQUIPMENT.

The State Board of Health, under the Statutes, is expected to engage the services of a skilled veterinarian. This it has done. And the Board is fortunate in having so capable a man. First of all he is a graduate of one of the best veterinary schools in America, the school headed by Dr. Leonard Pearson, of Pennsylvania. Then after graduation he was engaged by one of the large biological laboratories where

they make mallein, tuberculin, vaccine, diphtheria antitoxin, tetanus antitoxin, etc. He had the veterinary side of all this work. This gave him a practical experience that is rare. And since he has been in the service of the State Board of Health, his work with glanders has twice been checked up by the Bureau of Animal Industry, Washington, D. C., and has been approved in every detail. The State Board of Health never feels shaky or doubtful about any of his findings, or conclusions, or recommendations. He is the man in the field who does all the veterinary work of the Board. And he is a man that the Board has found will do to tie to. So much for the Board's veterinary equipment.

POLICY.

Now, the policy adopted by the State Board of Health in the management of glanders is exactly the policy adopted by the federal authorities in the Dominion of Canada, namely: THAT ALL ANIMALS THAT HAVE BEEN EXPOSED TO GLANDERS, TECHNICALLY KNOWN AS "CONTACTS," SHOULD BE TESTED WITH MALLEIN AND ALL THAT REACT SHOULD BE SPEEDILY DESTROYED. Bear in mind now that this is the policy adopted by Canada, that large country to the north of us, where the disease is managed by the Federal government instead of by the provinces, or States, as we would say. In the United States it is managed by the States, and the Federal government gives its co-operative assistance.

But the most important thing for us to bear in mind in this connection is that Canada has tried both. They first tried the plan suggested in Governor Gilchrist's interview, and then when they saw what an ignominious failure it was they fell back upon the present plan.

The plan that these abstracts suggests, and the one that seems to have the Governor's approval, is to isolate the occult cases, that is, those that give the mallein reaction but show no other symptoms, and give them repeated injections of mallein, with the hope of curing them.

The following is a copy of the excerpts furnished the State Health Officer by the Governor:

Tallahassee, Florida, August 1.—To supplement the information relative to the treatment of glanders in horses which Governor Gilchrist obtained from Col. Hugh L. Scott, Superintendent of the United States Military Academy, at West Point, N. Y., and embodied in an interview upon his return to Florida, Governor Gilchrist wrote to the Quartermaster-General of the United States Army for copies of reports which had been made to the department on this subject, and has received copies of several such reports, from which the following extracts are published for the information of interested persons in Florida.

Dr. Thomas P. Shanahan, Veterinary Surgeon of the Quartermaster's Department, U. S. A., reported as follows:

"Glanders having broken out among the horses of the 3d Squadron, 14th Cavalry, stationed at Jolo, P. I., comprising troops 'I,' 'K,' 'L' and 'M,' and to control and weed out the infected cases, the Commanding Officer ordered that the mallein test be administered to these four troops by the orders and under

the direction of Major Hugh L. Scott, 14th Cavalry, commanding the post at Jolo, P. I.

"The mallein test was administered to the animals one troop at a time and any animal that reacted to the test was to be isolated from the healthy animals and given repeated injections of mallein until the animal ceased to react to the mallein, and when the animal developed no symptoms of glanders and gave no further reaction to the mallein test he was returned to duty in the troop. The animals that received the mallein test and developed symptoms of glanders were destroyed.

"Out of 215 horses tested with mallein 72 horses reacted at the first test. These 72 horses were quarantined and put in a temporary stable and promptly recuperated from the effects of the first mallein test, continued to do well and at the expiration of four weeks were re-tested with mallein. One horse developed glanders ten days after the first injection, three horses after the second injection, and were destroyed. The remaining 68 horses were returned to duty in their respective troops and have remained healthy up to this date, six months after the first mallein test was made. No new cases have appeared among the four troops up to date.

"The summary result of the first mallein test, August, 1904, was as follows:

"Number of cavalry horses at this post, 215; proven healthy by first mallein reaction, 143; proven infected by first mallein injection, 72; proven healthy by second mallein injection, 36; proven infected by second mallein injection, 35; proven healthy by third mallein reaction, 24; proven infected by third mallein injection, 11; proven healthy by fourth mallein injection, 8. Four horses were destroyed suffering with glanders."

Col. H. L. Scott, reporting to the War Department from Jolo, Philippine Islands, wrote as follows:

"The difficulty was in detecting glanders and isolating the infected horses in the earlier stages of the disease before it progressed far enough to be communicated to others. In order to accomplish this a large quantity of mallein was procured and all the cavalry horses were inoculated with the results mentioned within. It is believed from this and other information that the mallein is a cure for glanders in its incipient stages before it has become sufficiently advanced to be indicated by the ulcers in the nasal membrane, swelling of the glands, etc., and all the old symptoms usually relied upon for the diagnosis of glanders, and that by its use as shown within, the cavalry mount at this post has been saved from complete loss. The mallein seemed to act as a very strong tonic and those animals that were weak and thin began to improve almost immediately until when returned to duty they were fat and strong."

Army Veterinarian Richard O. B. Corcoran made a report of his work on glanders among the horses at the Residio of San Francisco, from which the following extracts are taken:

"I then injected 1 c.c. of mallein into each animal at intervals of ten to fourteen days, until all ceased to react, both thermally and locally, when they were returned to duty. Before the second injection of mallein was given the isolated horses of 'H' troop, I discovered that one had acute and cutaneous glanders (No.39), and later another developed acute glanders (No. 35). Both horses were destroyed on February 3d and 5th, respectively.

"At about the same time No. 21, of the same troop, 'H,' showed indications of chronic glanders (indurated intermaxillary glands, slight nasal discharge, and small characteristic ulcer on Schneiderian membranes). This animal, however, recovered, but the treatment was more protracted than most of the others.

"Months after this, in studying the matter over calmly and deliberately, I, personally, came to the conclusion that glanders did exist to the enormous extent claimed by the State authorities, but that by the periodic testing of the herd with mallein by veterinarians preceding us, it unknowingly acted as a curative agent. * * *

"Taking into consideration the reputations of my different predecessors, and the periodic injections of mallein by them into this originally infected herd and their immunity from the disease at our investigation, I had come to the undoubted conclusion and asserted so, though scoffed at by some of my colleagues, that mallein was a curative agent for glanders when not acute or too far advanced. This case now submitted of generalized incipient glanders amongst the public animals at the presidio of Monterey is the first opportunity I have had of proving my assertions.

"From all of these deductions, from extensive experience and observation, I have no hesitation in strongly recommending that all our public animals be injected annually or semi-annually with mallein; especially in the tropics, or where glanders is suspected to exist. Not only as a detector, but as an immunizer, as well as a treatment for the disease when reactions are discovered. The intervals between injections should not be less than ten days, as I found in many of the cases quoted local reaction existing for fully one week after inoculation."

Theoretically, that sounds well. For what is simpler? Well, that was what they thought in Canada, and so, as before said, they tried it. They tried it good and hard. The stuck to it conscientiously for nearly three years. Their experience covers 15,505 cases. (Contrast that with 215 cases in the above excerpt!) And when they had accumulated a sufficient experience so that they could tell exactly what would happen if thus and so were done, they concluded that they didn't want thus and so done, for they didn't want the other thing to happen. In short, they made a failure, acknowledged they were pursuing the wrong policy, profited by their experience, and today Canada, of all nations in the world, stands in the front rank in the management of glanders.

Because of Canada's very advanced position in the management of glanders, and because of her very wide experience, and because of her having tried both policies, and in that way learned which is the best, and because Great Britain is preparing to adopt her policy, and because the American Veterinary Association has given UNANIMOUS endorsement and has recommended it to the United States for adoption and has recommended it to the several States in America for adoption, and because it has already been in force in Florida since the State Board of Health has had the management of glanders, and because of the world-wide eminence of the Veterinary Director General of Canada, who made the former policy for Canada, and after trying it persistently and conscientiously, but in vain, abolished it and built up a rational and successful one—I say, because of all this, I feel that I can do no better than to let Dr. J. G. Rutherford discuss this policy—its merits and demerits. I shall, therefore, quote largely from him, without apology, and with the earnest hope that the people of Florida will give him the attentive ear that he so richly merits.

SPECIAL REPORT ON GLANDERS.

(By J. G. Rutherford, *Veterinary Director General and Live Stock Commissioner.*)

Ottawa, Canada, September 1, 1906.

Sir—I have the honor to present a special report upon the work performed during the last four years by this branch of your department in dealing with glanders.

This disease has long been rightly looked upon as one of the most serious and dangerous of animal plagues, and even were there no recent striking developments, or rather circumstances, demanding special attention, a report of this kind would not be out of place.

As matters stand now, however, there are grave reasons for the careful summing up of the whole situation, and in my opinion for the serious reconsideration of the views held regarding the disease by a majority of the veterinary practitioners of this continent, and for a radical change in the attitude generally assumed by governmental bodies dealing with it.

It is quite unnecessary to occupy your time by any dissertation on the general history and pathology of glanders, or on the serious consequences not only to horses, but to human beings, which its continued existence in any community is liable to entail. It is equally needless to descant upon its prevalence on this continent and the importance of the adoption of an intelligent and comprehensive policy, having in view its immediate control and ultimate eradication.

As statistical and other details have been furnished in my various annual reports, I propose to confine myself to a brief history of our recent work in connection with the disease, followed by a short summary of the conclusions reached, on several points regarding which opinions, even today, differ somewhat widely.

It is almost exactly four years since the discovery of a serious outbreak of glanders in the city of Ottawa rendered necessary a prompt decision as to whether the control of this disease was to be assumed by the Federal authorities, or left, as it had up till then been, except in the Northwest Territories, and in the case of one or two isolated outbreaks, elsewhere, in the hands of the Provinces.

After carefully considering my representations, you decided that it would be in the best interests of all concerned to bring the disease under the direct control of the Health of Animals' Branch of your Department. This was accordingly done, except in Manitoba, where, owing to the fact that the legislation had long been such as to enable the Provincial authorities to deal with it, if they chose to do so, in a most thorough manner, the work was not taken over by the Federal government until 1905.

From August, 1902, until the present we have maintained a continuous effort to eradicate glanders in the Dominion, a work, I may say, of no small difficulty, when the size of the country, its climate and the conditions under which horses are kept in many districts are taken into full consideration.

The discovery of mallein in 1890 revolutionized entirely the views of veterinarians regarding glanders. Older veterinarians will remember the formidable chain of symptoms which, in their student days, were considered essential to a diagnosis of glanders, as also the various ironclad rules to be followed in differentiating between it and that now somewhat dubious disease "nasal gleet."

It is now recognized that horses may be, and only too frequently are, seriously affected with glanders while presenting, so far as outward and visible symptoms are concerned, an appearance of perfect health. The knowledge of this fact has, of course, necessitated a complete change in the methods of dealing with outbreaks of the disease. Whereas it was in former years, and in some countries is, even today, considered sufficient to slaughter animals showing clinical symptoms, while ignoring entirely those which may have been in contact, the conscientious modern veterinarian insists on the latter being submitted to the mallein test, and if found to react, either slaughtered or segregated for observation and further tests.

In studs* where clinical cases have occurred there is a strong likelihood that some of the contact horses will be found to be affected, although for a time at least they may present no external symptoms.

Any system, therefore, which ignores this frequent condition is faulty and likely to cause a dissemination of the infection, particularly when, as is often

*Stables.

done, studs* in which glanders has been found to exist, are dispersed among innocent purchasers.

Under ordinary circumstances, especially when no provision for reasonable compensation exists, the problem presented by the condition outlined above is exceedingly difficult of solution. While horse owners, unless very poor, very ignorant or very unprincipled, are generally willing to have clinical cases destroyed, they quite naturally object to the slaughter of animals which may have reacted to mallein, but show no evidence of disease and remain in good working order.

In some countries the authorities overcome the difficulty after a fashion by leaving the contact horses severely alone, thus avoiding the responsibility which would have to be assumed if the animals, on being tested, were found to react. Untested, they are presumably healthy and are left free from restrictions.

As an illustration of the results of pursuing a policy of this kind, the following figures from the returns of the Board of Agriculture for Great Britain are very interesting.

	Horses destroyed.
1898	1,385
1899	1,472
1900	1,858
1901	2,370
1902	2,073
1903	2,499
1904	2,628

It is not, however, necessary to go to Great Britain for proof of the folly of ignoring the contact horse. Similar object lessons are furnished by the conditions prevailing in more than one district in Canada, and while, of course, I cannot presume to speak authoritatively on these matters, I feel confident that in some of the United States of America glanders is rapidly increasing owing to this cause.

The evil is greatly intensified by the fact that, where the proper authorities are inert, private testing of infected studs is continually going on, the reactors being subsequently sold as expeditiously as possible. Prominent veterinarians in Great Britain credit these private mallein tests, conducted by unscrupulous owners through equally unscrupulous practitioners, with the notoriously rapid spread of the disease in that country in recent years.

The same thing is undoubtedly true in America, and here let me point out another condition which, taken in conjunction with the private test, constitutes an additional and very important factor in the spread of glanders.

I refer to the great facility with which, in these modern days of cheap steam transportation, horses may be moved in large numbers from place to place.

While, especially in communities where mixed husbandry prevails, glanders may never obtain a foothold, because in these districts horses are, with perhaps the exception of valuable and generally healthy breeding stock, but seldom introduced, I would remind you that the great fluctuations in the value of horse flesh during the decade just passed have brought about the movements of large numbers of these animals from one district to another, and that glanders has, beyond doubt, been extensively spread by this means.

Perhaps the most dangerous agents in thus disseminating glanders are the Western range horses, which, during the last ten years, have been distributed in large numbers throughout the country. Glanders on the range exists to a considerable extent in a latent and often very mild form, but it rapidly develops when the animals are broken, stabled and put to work. Many of the most widespread and most serious outbreaks with which we in Canada have had to deal are directly traceable to importations of range horses. Mallein is, of course, seldom used on the range, but it is a common thing for owners to shoot down

*Stables.

any clinical cases they may notice, the others, showing no symptoms, being sold as healthy, with the result above mentioned.

Having made this digression in order to clear the way for what follows, I will, with your permission, revert to the time when, in 1902, I was called upon to formulate a definite policy for the control of glanders in the Dominion. At that time there existed no provision whatever for the payment of compensation, and this, of course, rendered quite impossible the slaughter of nonclinical reactors, even if I had then been anxious to adopt this radical policy.

As a matter of fact, however, I was, like many other veterinarians, under the impression obtained from a number of reliable professional sources, that it was quite unnecessary to kill horses of this class, and that satisfactory results would follow the adoption of a policy of testing all contacts with mallein, and retesting from time to time such as reacted until they either ceased to react, or through repeated injections, furnished conclusive evidence that they were curable.

For a period of slightly over two years this plan was carefully and conscientiously followed, but as time progressed it became evident that the results obtained were altogether disproportionate to the risk and labor involved. Not only did the number of horses on our hands keep constantly increasing, but in many cases individual reactors held among others for future tests developed clinical symptoms, and thus established fresh centres of infection. Such horses not only endangered the other reactors with which they were being kept, and some of which might have a possible chance of recovery, but indirectly threatened, through the various every-day channels which horsemen will understand, the health of other animals not actually housed with them.

As our opportunities for observation increased and further experience was obtained, serious doubts as to the conclusions previously reached by eminent veterinarians, both in Europe and America, as to the impossibility of glanders being transmitted by reactors not showing clinical symptoms, or by ceased reactors began to assert themselves. As the work went on evidence gradually accumulated that many of the so-called ceased reactors were not only not permanently cured, but were properly to be looked on with grave suspicion as being likely to introduce glanders among healthy horses with which they might be brought in contact. Several outbreaks of more or less severity and extent can be traced directly to these ceased reactors, and before I conclude, I shall endeavor to demonstrate the advisability of dealing with animals of this class as possible future centres of infection. As the owners of ceased reactors are generally more than willing to dispose of them as soon as possible after their release from official control, the risk of bringing infection to the stables of their unsuspecting purchasers constitutes an added danger which cannot reasonably be ignored.

The conclusion that neither non-clinical reactors nor ceased reactors could, with safety, be considered non-infective, having been thus forced upon me, there remained only two alternatives, either to follow the futile and already discredited policy of killing clinical cases and ignoring contact animals, or to face the situation and adopt the only intelligent course, the destruction of all horses showing the typical reaction to mallein whether presenting any external manifestations of glanders or not.

I need scarcely say that this would have been absolutely impracticable without provision for the payment of liberal compensation. The question of compensation for the slaughter of diseased animals has always, and in all countries, been one of great difficulty, and the disinclination of those in authority to assume the financial outlay involved has been one of the chief obstacles encountered by veterinary sanitarians engaged in dealing with animal plagues.

When, however, the situation was clearly laid before you, you did not hesitate to ask parliament for the needed authority, and the no less necessary funds, with the result that in September, 1904, we were enabled to begin the slaughter of reactors and to pay for them at a reasonable, and when their intrinsic value is considered, a most liberal rate.

From September, 1904, to March, 1905, compensation was paid for non-clinical cases only, but it was soon seen that in order to avoid friction, as well as to secure prompt notification of outbreaks, it would be necessary to pay for all animals slaughtered, whether visibly affected or not. On March 23, 1905, therefore, the following regulations came into effect:

Dominion of Canada.—Regulations Relating to Glanders.
By Order in Council dated March 25, 1905, in virtue of
"The Animal Contagious Diseases Act, 1903."

1. No animal which is affected with or has been exposed to glanders shall be permitted to run at large or to come in contact with any animal which is not so affected.

2. Any veterinary inspector may declare to be an infected place within the meaning of the "Animal Contagious Diseases Act, 1903," any steamship, or steam or other vessel, or any place or premises where the contagion of glanders is known or suspected to exist.

3. No horse, mule or ass shall be removed out of an infected place without a license signed by an inspector.

4. Veterinary inspectors are hereby authorized to inspect and to subject to the mallein test any horses, mules or asses affected with glanders or suspected of being so affected, or which have been in contact with animals so affected, or suspected of being so affected, or which have been in any way whatsoever exposed to the contagion or infection of the disease of glanders, and for the purpose of making such inspection or test to order any such animals to be collected, detained or isolated.

5. Horses, mules or asses affected with glanders, whether such animals show clinical symptoms of the disease, or react to the mallein test without showing such symptoms, shall on an order signed by a duly appointed inspector of the Department of Agriculture, be forthwith slaughtered and the carcasses disposed of as in such order prescribed, compensation to be paid to the owners of such animals if and when the Act so provides.

6. In the event of the owner objecting to the slaughter of animals which react to mallein, but show no clinical symptoms of glanders, the inspector may order such animals to be kept in close quarantine and retested, such retests, however, in no case to exceed two in number and to be completed within four months of the first test, provided, however, that owners deciding to have their animals quarantined rather than slaughtered shall forfeit all right to compensation.

7. Horses, mules or asses reacting to the third test with mallein shall be forthwith slaughtered on an order signed by an inspector, and the carcasses disposed of as ordered.

8. Inspectors are hereby authorized to permit owners of horses, mules or asses which give no reaction to the third test with mallein and which have at no time shown any clinical symptoms of glanders, to retain and use such animals, subject to the conditions contained in the license signed by the Inspector.

9. Before an order is made for the payment of compensation in any of the cases aforesaid, there must be produced to the Minister of Agriculture a satisfactory report, order for slaughter, certificate of valuation and slaughter, and certificate of cleansing and disinfection, all signed by an inspector.

10. The certificate of an inspector to the effect that an animal has reacted to the mallein test or has shown clinical symptoms of glanders, shall, for the purpose of the said Act and of this order be *prima facie* evidence in all courts of justice and elsewhere of the matter certified.

11. Every yard, stable, outhouse, or other place or premises, and every wagon, cart, carriage, car or other vehicle, and every utensil or other thing infected with glanders shall be thoroughly cleansed and disinfected by and at the expense of the owner or occupier, in a manner satisfactory to a veterinary inspector.

J. G. RUTHERFORD,
Veterinary Director-General.

Department of Agriculture, Ottawa.

Although the time which has elapsed since the inauguration of the policy of compensation and slaughter is altogether too short to enable us to form a definite and decided opinion as to its wisdom and probable effectiveness in securing the eradication of glanders, the following figures furnish convincing proof that it has a strong tendency to remove the disinclination generally evinced by owners to report outbreaks of the disease and to permit the slaughter of their horses:

	Tested.	Reacted.	Killed.	Clinical.
1902-3	1,062	466	219	219
1903-4	1,387	420	499	499
Inclusive of Manitoba:				
1904-5	4,899	1,854	2,113	932
1905-6 (To March 31)	3,957	1,285	1,387	561
1906-7 (To August 31)	4,200	850	946	502
Total	15,505	4,875	5,164	2,713

In considering these figures I desire particularly to draw your attention to the large increase, not only in the numbers of those tested and killed as reactors, but of those showing clinical symptoms. These figures furnish incontestable evidence that the present system brings to light a very large number of cases of glanders, which, without provision for payment of compensation, would never have been reported.

Under the conditions formerly existing, there was a tendency on the part of owners, and doubtless of some veterinarians, to avoid trouble and loss by concealing the existence of glanders. Where no compensation is paid many owners, otherwise quite respectable, are undoubtedly in the habit of allowing clinically affected cases to run their course, working them as long as possible, and finally either permitting them to die or having them quietly destroyed; while those less honest or more unprincipled have no hesitation in subjecting them to palliative treatment, with a view to removing or concealing suspicious symptoms, and subsequently disposing of them to the best advantage.

*I am satisfied that the system now followed in Canada will, by removing temptation, prove effective in overcoming, at least to a very great extent, these tendencies shown by depraved human nature under less favorable circumstances.**

It is interesting to note the manner in which the new regulations are received in different parts of the Dominion. In districts where the disease has prevailed to any considerable extent, and where horse owners realize its serious nature, and the importance of stamping it out, the new order of things is heartily welcomed. On the other hand, in places where the people are comparatively unfamiliar with glanders, the new regulations are looked upon as unnecessarily severe, and people complain bitterly that their horses are being slaughtered without good and sufficient reason. The claim is made that our inspectors destroy more horses than the disease itself would ever be likely to kill, the argument being advanced that only a very limited number of horses die from glanders under ordinary conditions, and that the disease seldom or never becomes epizootic.

*Facts, however, are entirely against this contention. The figures already quoted from the returns of the Board of Agriculture of Great Britain indicate that, under modern conditions, the disease, unless properly controlled, is certain to spread rapidly and to cause a constantly increasing loss in horseflesh.**

As an illustration of this, I would quote from our own experience the case of one Canadian lumber company in a remote part of the country, which reported last year for the first time the existence of glanders among its horses. Inquiry elicited the fact that in less than four years upwards of fifty head of valuable horses, owned by this company, had died of glanders. Of thirty-six survivors, thirty-four reacted to mallein, and were destroyed. Of the two remaining, neither had been in contact with the diseased horses.

*The *italics* are ours.

We have a number of similar cases on record, but it would scarcely be possible to furnish a better illustration of the evil results certain to follow carelessness or neglect in dealing with glanders.

In this connection I cannot refrain from quoting an extract from the *London Lancet* of July 5, 1905, which, in a review of the report of the Board of Agriculture, speaks as follows:

"Glanders is admittedly on the increase, and it is time that some radical measures were taken to control the disease. In 1894 there were only 502 outbreaks reported, but in 1904 these had increased to 1,539 and 2,658 horses were killed as glandered. More power ought certainly to be given to the veterinary inspectors to test the in-contact horses with mallein, as by this agent an almost infallible diagnosis can be made within twenty-four, or at most forty-eight hours. The expense, although great the first year, would not be excessive if allowed to spread over a period of years; and where a preventable disease, which also causes the deaths of numbers of human beings each year, is concerned, the cost ought certainly not to be considered too seriously as the reason why it should not be taken thoroughly in hand."

*It is gratifying to note that the British authorities are being urged to introduce the identical policy which we have already adopted in Canada.**

While dealing with this phase of the subject, I would point out that if the adoption of our system is deemed necessary in a small country like Great Britain, where police and inspection work has been reduced to a science, there can be no doubt of the wisdom of its adoption in the Dominion of Canada, where the distances are magnified and the population, especially in some districts, sparse to a degree, although I am glad to say that the last named condition is being rapidly altered by the constant influx of desirable settlers who are coming from all parts of the world, but perhaps in greatest number from the Western United States.

In this connection, I would say that while we do not think it necessary to test the human immigrants from that country, I think it altogether likely that we will be compelled, in the near future, to impose this precautionary restriction upon those of the equine species, as the records in our possession indicate that a considerable number of the outbreaks of glanders in Western Canada are due to imported American horses, of which we have for a number of years been absorbing from 25,000 to 30,000 per annum.

Having now indicated, perhaps at too great length, our present attitude in relation to glanders, I would like to lay before you, as briefly as possible, some of the facts brought to light in the course of our work, *which have convinced us that in the war against glanders no quarter should be given to the typical reactor, whether he shows clinical symptoms or not.**

I have already given you some figures as to the number of horses with which we have dealt during the last four years. In connection with what I am about to say, however, I would call your attention to the fact that up till August 31, 1906, we have tested 15,505 horses, and have actually made 18,177 mallein tests.

The marked disproportion between the number of horses tested and the number of tests made is attributable to the fact that from 1902 to 1904 we, as already stated, followed a retesting policy. It will, I think, be conceded that the number of tests made, each of which was carefully reported, is sufficient to furnish a reasonable basis for definite and intelligent opinions on the various points relative to mallein, its uses, effects and the conclusions which may reasonably be drawn therefrom.

While perhaps to some extent reversing the natural sequence of events, I propose to refer first to the danger inseparable from the keeping alive of ordinary non-clinical reactors. With regard to this point, I am not in a position to furnish any great amount of statistical information for the reason that from the very beginning of our present operations animals of this class falling into our hands have been, except in the case of a few which early became ceased

*The *italics* are ours.

reactors, so dealt with as to prevent the possibility of their coming into contact, direct or indirect, with healthy horses.

When engaged in private practice, however, I had an opportunity of forming an opinion on the subject, for although after the use of mallein was adopted, which, with me, was in the year 1893, I invariably advised my clients to destroy all typical reactors, the law did not make their slaughter compulsory, and many were permitted to live. Not a few subsequent outbreaks of which I was cognizant were undoubtedly due to the retention and distribution of infection by these apparently healthy animals.

As matter of fact, there has never been, at least among intelligent and single minded veterinarians, any great tendency to belief in the harmlessness of horses which continue to give typical reactions to mallein, even when they present no visible symptoms of glanders. *The departmental committee appointed in* 1901 *by the Board of Agriculture of Great Britain for the purpose of conducting experimental investigations with regard to this and kindred subjects, reached the conclusion that these healthy reactors are capable of transmitting glanders.** The committee in question comprised the late Mr. A. C. Cope, Mr. Wm. Hunting, Sir John McFadyean and Dr. James McI. McCall, all men of high professional attainments and great experience in dealing with glanders. One of the points dwelt upon by them, viz., the suddenness with which a reactor may become clinically glandered, is worthy of special note. Our experience in Canada has demonstrated beyond question the danger arising from this liability of reactors to suddenly develop acute symptoms, and has shown further that a considerable proportion of these superficially healthy animals are in reality clinical cases.

As under our present regulations such horses are slaughtered, opportunities for post-mortem examinations have not been wanting, and in many cases showing absolutely no external symptoms, extensive ulcerations have been found high up in the nasal passages, while the presence in this situation of minute nodular lesions, undoubtedly specific, has been strikingly frequent. These discoveries bear out the opinion which I have long held and frequently expressed regarding the importance, from an infective point of view, of enlarged submaxillary glands in reacting animals. There is never smoke without fire, and these glands are not likely to show tumefaction without a definite pathological reason.

Leaving nasal lesions aside, it is well known that in typical reactors glanders nodules are invariably found in the lungs, and not infrequently in other organs, although the tendency to localization in the lymph nodes, so common in bovine tuberculosis, is much less frequently noted in glanders.

Again, I would remind you of the days before mallein was heard of, when, in spite of all our efforts and precautions, case after case, and outbreak after outbreak, of glanders would occur in the same stable. After each fresh outbreak the most thorough disinfection was practiced, and all the horses subjected to careful scrutiny and continued close observation. Six months, or perhaps a year, would elapse and then another case or series of cases would occur. We blamed the stables, we thought the contagion, or, as we then called it, the virus, was immortal and indestructible. Now we know that, outside of the animal body, the life of the bacillus mallei is, under the most favorable conditions, limited to three or four months. In the animal body it is a different matter, and the cause of the mysterious recurrent outbreaks was the chronic latent case of glanders, then unrecognized, but now, through the agency of mallein, marked down and known as a reactor.

In tracing the origin of primary outbreaks in hitherto uninfected localities, we almost invariably find that the disease has been introduced not by a well marked case of glanders, but by a non-clinical contact horse, often a reactor, generally purchased by an unsuspecting farmer, ignorant of the fact that his new bargain has recently come from an infected district, and possibly from a badly infected stud (stable).

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Further evidence against the reactor will be incidentally adduced in the notes which I am about to lay before you regarding his close connection, the so-called ceased reactor.

Ceased reactors, so-called, should, in the light of our experience, be divided into three distinct classes:

1. Those which, while not properly reacting to mallein, are, owing to a slight thermal rise or a septic infection, more or less serious at the point of injection, erroneously classed as reactors by the veterinarian making the test.

2. Actual ceased reactors, comparatively few in number, and almost invariably, in our experience, consisting of horses tested when in the incipient stages of glanders, or at any rate when but slightly affected, as evidenced by the fact that their original reactions, though typical, are not as well marked either thermally or locally, as those given by clinical cases or by these animals, which, while perhaps not showing external symptoms, are suffering from the disease in an advanced form.

3. Those which having on one or more occasions definitely reacted, develop an acquired tolerance to the test, the latter being, however, of a temporary character, so that after the lapse of a varying period, generally from six to twelve months, a typical reaction again follows the injection of mallein.

The first mentioned class are of but little importance, and demand no attention at our hands beyond a due consideration of the part they have already played, and doubtless will for some time continue to play, in prompting bootless discussion, and thus, to some extent, retarding the general adoption of mallein as an authoritative diagnostic agent.

The various causes which contribute to their being wrongly classified as reactors will, however, be shortly dealt with when we take up the question of reactions, typical and atypical.

The second class is naturally much more interesting, consisting as it does of horses which actually overcome the infection of glanders, either through the action of mallein or by the effects of nature unaided, or at least aided only by favorable physical conditions.

We have in Canada under supervision at present a considerable number of horses which have at one time or another, during the past four years, given a typical reaction to mallein, but which are now, so far as we can ascertain by periodical inspection and repeated testing, absolutely free from glanders. These animals, however, constitute a lamentable small proportion of the total number which reacted without showing clinical symptoms in the two years during which we followed the retesting system.

Two years ago I stated that about 25 per cent. of our non-clinical reactors had ceased to react, and were apparently free from glanders. At that time I expressed my great disappointment with the small return which this percentage gave for the risk and labor involved in carrying on the retests, and announced that it was our intention to discontinue that method of dealing with glanders and adopt the plan which we are now following.

*I am sorry to have to tell you that in classing all these horses as safely ceased reactors, we were seriously in error. During the intervening period a considerable number of them have rejoined the reacting ranks, and have been condemned as diseased. There are still, however, a number which have continued to stand not only the mallein test, but the test of time. These give absolutely no indication of being other than healthy horses, and thus, so far as can be seen at present, there is no reason to doubt that, in a proportion of comparatively mild cases of glanders recovery may and does take place.**

* * * Having now dealt with the supposititious ceased reactors and with those which appear to make an actual and permanent recovery, it becomes our duty to discuss those animals, and they are, in our experience, by far the most frequently encountered and, needless to say, the most dangerous, which acquire a temporary tolerance to mallein, but which again give a definite reaction when tested, after sufficient time has elapsed to nullify the effects of previous injec-

*The *italics* are ours.

tions. In the report of the special committee appointed by the British Board of Agriculture, to which I have already referred, the records given indicate that all the ceased reactors dealt with in the experiments showed an abnormally high temperature when tested with mallein some time after they had apparently ceased to react. I considered this a very suspicious circumstance, and one which furnished food for serious thought. In order to discover, if possible, the reason for this peculiar phenomenon, I determined to again submit to the mallein test a number of horses which had been kept for varying periods under supervision as ceased reactors. The results are very interesting, as may be gathered from the following examples from the report of Dr. A. E. Moore, one of our most careful and capable officers, who was entrusted with the task of conducting the investigations. The pathological work was, of course, done by Dr. Higgins.

Results of post-mortem examinations conducted on ceased reactors which again reacted on being tested, after a period of not less than six months:

Paddy, Grey Gelding, 16 years. No. 304.

	Max. temp. before inject.	Max. temp. after inject.	Max. size swelling.
1st test, May 22, 1903.....	100 4-5	105	6x6
2d test, June 7, 1903.....	100 2-5	105 2-5	4x5
3d test, September 7, 1903.....	100 2-5	101 2-5	2x3 ceased
4th test, October 25, 1903.....	101	101	3x4
Retest after 1 yr 2 mos., Dec., 1904.	101 2-5	104	3x6

Result of post mortem of No. 304.

Very few nodules scattered in the lungs, around some of these nodules a small quantity of lymph-like substance was seen, otherwise encysted.

Jerry, Grey Gelding, aged. No. 307.

	Max. temp. before inject.	Max. temp. after inject.	Max. size swelling.
1st test, June 6, 1903.....	100 4-5	105 4-5	3x4
2d test, August 20, 1903.....	101	104	2x2
3d test, November 19, 1903.....	100 4-5	104	3x3
4th test, February 26, 1904.....	101 2-5	101 1-5	2x2 ceased
Retest, after 9 mos., Nov. 15, 1904.	100 2-5	104 2-5	3x4

From 20 to 30 small nodules in the lungs from the size of a pea to small bean, several places in right lung showing cicatrical tissue, all the nodules were deep seated, mostly encysted, and followed the large bronchial tubes. Three guinea pigs inoculated and from one bacillus mallei was isolated in pure culture.

Nance, Grey Mare, Eight Years. No. 308.

	Max. temp. before inject.	Max. temp. after inject.	Max. size swelling.
1st test, March 10, 1903.....	101 1-5	104 3-5	4x4
2d test, June 6, 1903.....	101	105	6x8
3d test, August 20, 1903.....	99 2-5	104 1-5	6x6
4th test, November 19, 1903.....	100 1-5	102 1-5	5x6
5th test, February 2, 1904.....	100 4-5	101 1-5	3x3 ceased
Retest, after 9 mos., Nov. 15, 1904.	100 3-5	104 3-5	4x4

About ten very small nodules encysted, all deep seated in the lungs and near the bronchial tubes.

Two guinea pigs were inoculated July 12, 1904. They were still thrifty August 6, 1905, and had gained considerable in weight. They were chloroformed, no lesions found and cultures remained sterile.

Doll, Bay, White Face, Nine Years. No. 309.

	Max. temp. before inject.	Max. temp. after inject.	Max. size swelling.
1st test, March 23, 1903.....	99 1-5	104 1-5	2x2
2d test, June 6, 1903.....	100 2-5	105 1-5	4x8
3d test, August 8, 1903.....	100 4-5	104 4-5	4x5
4th test, November 19, 1903.....	100 3-5	102 4-5	4x5
5th test, February 26, 1904.....	101	101	2x2 ceased
Retest, after 9 mos., Nov. 15, 1904.	100 2-5	104 2-5	3x6

Bronchial and mediastinal glands slightly enlarged. About twenty small nodules (pea) were found in the lungs, sixteen in the right lung and four in the left. Mostly encysted. Three guinea pigs were inoculated, and from one bacillus mallei was isolated in pure culture.

Mag, Black Mare, Ten Years. No. 310.

	Max. temp. before inject.	Max. temp. after inject.	Max. size swelling.
1st test, May 5, 1903.....	102	104 2-5	2x6
2d test, August 6, 1903.....	100 1-5	104	3x3
3d test, November 19, 1903.....	100 2-5	104 2-5	3x3
4th test, February 20, 1904.....	100 2-5	100 4-5	2x3 ceased
Retest, after 9 mos., Nov. 15, 1904.	101	103 2-5	3x3

About 15 very small nodules found in all lungs, all deep seated, and following the main bronchial tubes, mostly encysted.

Three guinea pigs inoculated July 12, 1904. From one pure cultures of bacillus mallei were obtained.

*In all these autopsies there was noted the peculiar injected appearance of the lungs which is seen when a reacting animal is destroyed immediately after testing. In all but one of these five ceased reactors a pure culture of the bacillus mallei was obtained. In this case the lesions found were characteristic, and it is probable that the bacilli were present. Only two guinea pigs were used for this inoculation.**

*The following very striking record is that of a horse which has ceased to react no less than three times in the course of the last three years.**

This animal is still isolated under close supervision, and although performing ordinary farm work daily, is in the pink of condition, and, to all outward appearances, absolutely healthy.

King, Bay Gelding.

	Max. temp. before inject.	Max. temp. after inject.	Max. size swelling.
1st test, August 26, 1903.....	101	105	2x4
2d test, November 19, 1903.....	100 2-5	104 1-5	4x4
3d test, February 26, 1904.....	100 2-5	103 1-5	2x2
4th test, June 9, 1904.....	101 1-5	101	2x2
5th test, July 5, 1904.....	101 1-5	101	3x3
6th test, November 14, 1904.....	101 1-5	104 1-5	3x4
7th test, April 7, 1905.....	101 1-5	101	2x2
8th test, November 1, 1905.....	100 4-5	104 4-5	4x4
9th test, July 7, 1906.....	100 4-5	101	2x3

I append here three tables showing the different results obtained in testing: 1st, horses which have become permanent ceased reactors; 2d, horses which after having once ceased to react, have again given a characteristic reaction to mallein after a period of from six months to two years, and 3d, horses which have shown no improvement when tested at intervals of 30, 60 and 90 days, although never developing clinical symptoms.

*The *italics* are ours.

Five guinea pigs were inoculated, and from the organs of one a pure culture of bacillus mallei was obtained.

12 Horses which did not show any improvement by injection of Mallein at intervals of about 30, 60 and 90 days, although never developing any clinical symptoms.

No.		Maximum Temperatures at				Maximum Size of Swelling at			
		1st Test	2nd Test	3rd Test	4th Test	1st Test	2nd Test	3rd Test	4th Test
1	Brown Gelding, 13 years....	105.8	105.4	105	104.6	2x3	4x4	3x4	4x4
2	Bay Mare, 10 years.....	106.4	106.4	106.2		4x6	2x5	6x8	
3	Bay Gelding, 8 years.....	106	105.8	105		3x4	5x8	5x6	
4	Roan Gelding, 11 years.....	106.2	105.2	104.2	105.6	3x7	4x5	3x5	5x7
5	Chestnut Gelding, 14 years..	103.2	105.4	104.6	105.4	3x6	4x6	5x6	6x6
6	Black Gelding, 9 years.....	105.4	105.4	105		4x5	3x5	4x5	
7	Bay Mare, 9 years.....	106.8	105.2	105.6		6x7	6x6	6x8	
8	Black Gelding, 13 years	105	105.4	105.4		3x4	2x3	4x7	
9	Brown Gelding, 10 years.....	104	105.8	105		6x8	5x5	2x3	
10	Bay Mare, 7 years.....	105.6	104.4	103.4	105.4	1x1	5x6	3x4	2x2
11	Bay Gelding, 12 years.....	105.4	105.8	104.8		1x3	2x3	2x3	
12	Chestnut Gelding, 8 years...	104.8	103.4	101.2	105.4	4x6	6x6	2x3	5x6

Horses which became ceased reactors, but on being retested after an interval of from six months to a year and a half, again gave a characteristic reaction

No.		Maximum Temperature at									Maximum Size of Swellings at									Remarks
		1st Test	2nd Test	3rd Test	4th Test	5th Test	6th Test	7th Test	8th Test	9th Test	1st Test	2nd Test	3rd Test	4th Test	5th Test	6th Test	7th Test	8th Test	9th Test	
1	Bay Gelding, aged.....	106	104.2	100.8	104.4						2x2	2x3	2x3	4x6						
2	Black Mare, 10 years...	104.4	104	104.4	100.8	103.4					2x6	3x3	3x3	2x3	3x3					
3	Grey Gelding, aged.....	105.8	104	104	101.2	104.4					3x4	2x2	3x3	2x3	3x4					
4	Bay Gelding, aged.....	106.2	106	103.2	102	104.2					2x2	2x2	4x5	2x3	4x6					
5	Grey Mare, aged.....	105.8	105.6	103.6	1·0.2	104.6					3x8	none	5x6	3x3	6x8					
6	Grey Gelding, 16 years	105	105.4	101.4	101	104					6x6	4x5	2x3	3x4	3x6					
7	Grey Mare, 8 years.....	104 6	105	104.2	102 2	101.2	104 6				4x4	6x8	6x6	5x6	3x3	4x5				
8	Bay Mare, 9 years.....	104.2	105.2	104.8	102.8	101	104.4				2x2	4x8	4x5	4x5	2x2	3x6				
9	Chestnut Geld.. 18 yrs..	104	103.2	100.4	100	104.4					2x4	4x8	3x3	2x2	4x6					
10	Bay Gelding, 15 years..	100.8	101	101	100.4	103.2					2x4	4x7	3x6	1x1	6x12					
11	Bay Gelding, 7 years...	rigors	rigors																	
12	Bay Gelding, 12 years..	105	104.2	103.2	101	104.2	102.4	101	104.8		2x4	4x4	2x2	2x2	3x4	1x2	2x2	4x4		Ceased to react twice
	Chestnut Gelding, 8 years..	104.4	105.2	105	103	101.4	103.6	101.8	101.6	104.6	1x8	5x7	5x5	4x4	2x2	4x4	2x2	2x4	5x6	Ceased to react twice

Twelve Horses which became ceased reactors and did not react again at the end of periods varying from 6 to 18 months; retested at intervals of about 30, 60 and 90 days. Never showed clinical symptoms at any time

No.		Maximum Temperature at					Maximum Swellings at					Remarks
		1st Test	2nd Test	3rd Test	4th Test	5th Test	1st Test	2nd Test	3rd Test	4th Test	5th Test	
1	Brown Gelding, 10 years.....	105	105	103.2	100.8	101.8	3x4	3x5	5x6	1x2	2x2	Retested 17 mos. after ceasing to react
2	Black Mare, 9 years.....	104	103.4	102.4	102	101	2x2	4x6	2x6	2x3	1x2	" 10 " " " " "
3	Black Gelding, 11 years.....	104.2	102	101	100.4	101.8	1x2	2x2	1x3	1x1	2x3	" 17 " " " " "
4	Bay Gelding, 8 years.....	103	102.4	101.8	101.2	101.6	1x2	1x1	3x4	2x2	3x3	" 17 " " " " "
5	Black Mare, aged.....	104.2	105	101.6	100.4	102.2	2x2	2x3	2x3	2x3	2x3	" 17 " " " " "
6	Bay Gelding, 9 years.....	104.6	103.8	103	101.4	100.4	3x6	3x4	3x4	3x3	3x3	" 17 " " " " "
7	Bay Mare, 10 years.....	104.2	101.4	100.6	100.4	102.2	6x8	2x3	2x3	1x2	2x2	" 17 " " " " "
8	Roan Gelding, 10 years.....	103.8	102.2	101	100.8	101	1x1	2x3	1x1	None	1x3	" 12 " " " " "
9	Brown Gelding, 10 years.....	104.6	104	103 2	101.4	102	2x2	2x2	1x2	1x1	2x3	" 17 " " " " "
10	Chestnut Gelding, aged	103.6	103.8	101 6	100	101.4	1x3	1x1	2x4	2x3	2x3	" 17 " " " " "
11	Bay Gelding, 6 years.....	104.6	102.2	100.8	101.2		4x5	3x6	2x3	2x2		" 7 " " " " "
12	Bay Mare, 6 years.....	105.4	102.6	101.2	101.4		3x3	2x3	2x3	2x2		" 9 " " " " "

I do not think it necessary to make any extended comment on the facts brought to light by this series of retests. So far as the possibility of the latter reactions being due to reinfection is concerned, I would say that this danger was fully considered and guarded against. If reinfection occurred in any of these cases it was through one or other of the so-called ceased reactors, and not from any outside source.

I may add that while the work performed by Dr. Moore was the most systematic and thorough of any which we understood on similar lines, the results obtained by him were corroborated by like retests conducted by other officers in various parts of the Dominion.

Further proof of the dangerous character of these horses, which, through an acquired tolerance to mallein, are erroneously classed as ceased reactors, is, I am sorry to say, furnished by our own official records, several instances having occurred in which horses held under supervision for periods deemed sufficient to ensure safety, were permitted to mingle with healthy animals, with disastrous results.

*Not the least remarkable feature of these cases is the fact that they seldom develop clinical symptoms themselves, although beyond doubt, many of them are capable of transmitting infection to others.**

* * * In conclusion I would say that the operations which we have conducted, and their results, have shown in the most convincing manner the great value of mallein as a diagnostic agent when intelligently used by careful and experienced veterinarians. The expressed views of our inspectors on this point indicate that it can be absolutely relied upon in about 98 per cent. of the animals submitted to its action.

I take this opportunity of expressing my sense of gratitude to those inspectors whose comprehensive reports have rendered it possible for me to thus summarize the results of our work.

I would add that on the occasion of the last annual meeting of the American Veterinary Medical Association,† which was held in New Haven, Conn., in August of this year (1906), I laid before that body the facts set forth in this report, with the result that the following resolution was unanimously passed by the Association:

"*Whereas,* In the presentation of Canadian State control work with glanders by Veterinary Director-General Dr. J. G. Rutherford, it is apparent that the Canadian Government has undertaken control work with infectious disease of animals upon a scale that is highly creditable and in a way commensurate with the importance of the work; and,

"*Whereas,* Actual results shown in this report plainly justify the heavy expenditures incurred; therefore be it

"*Resolved,* That we commend those in higher Canadian Government authority for thus generously supporting this work, and commend the general organization and plan of the Canadian work to the consideration of the Federal authorities and to our various State authorities in so far as it may be applicable to their conditions and not already in force."

This hearty endorsation of our policy by the leading veterinarians of this continent is very gratifying, especially when considered along with the movement now on foot in Great Britain to bring about the adoption of measures similar to those in force here.

I have the honor to be, sir, Your obedient servant,

J. G. RUTHERFORD,

Veterinary Director-General and Live Stock Commissioner.

The Honorable, the Minister of Agriculture.

*The *italics* are ours.

†At this session of the American Veterinary Medical Association Dr. Rutherford was elected President of that body.

ATTITUDE OF THE DOMINION OF CANADA.

(As Expressed by Dr. Rutherford, Veterinary Director-General, at the Present Date.)

A letter similar to that addressed to the Bureau of Animal Industry (see page 148) was sent to Dr. Rutherford, Veterinary Director-General, to which the following reply was received:

OFFICE OF THE VETERINARY DIRECTOR-GENERAL AND LIVE STOCK COMMISSIONER,
OTTAWA, August 10, 1909.

DEAR SIR:—I beg to acknowledge receipt of your letter of August 3d, asking for a copy of my report for the two years ending March 31, 1908.

In connection with the control of glanders I will answer your questions seriatim:

1. In my experience the injection of mallein does not exercise any curative effects on glanders, although as pointed out on pages 127 and 128 of the report above mentioned (which is being sent you under separate cover), I believe that a limited number of mild cases of glanders do actually recover.

2. In this question I would object to the use of the word "cured," and would refer to answer your query as follows:

I do not think that a reactor should be considered as having recovered until after a lapse of at least one year from the time of the first test, it being further stipulated that during the last nine months of this year no mallein has been injected. If after ceasing to react during the first three months the animal, when retested nine months afterwards, fails to react, I would be inclined to believe that it had recovered.

3. I do not believe in the policy of insolating and retesting reactors, as pointed out on page 18 of my report for 1905-06, a copy of which I am also sending you. This policy was fairly tried by this department and found wanting.

Fifty years ago Gamgee, then one of the leading veterinarians of the English speaking world, expressed emphatically the opinion that it was better that fifty healthy horses should be destroyed than that one horse affected with glanders should be allowed to live. This is undoubtedly true today, and although owing to the discovery of mallein it is not necessary to take the chances in diagnosis which had to be taken in Gamgee's time, there is not, in my opinion, any question that every reactor should be destroyed without compunction. It is sometimes difficult to carry out this policy, especially in the case of exceptionally valuable horses, but my somewhat extensive experience has led me to the conclusion that it is the only one which can be depended upon.

I do not know whether you have seen the recent work by Mr. Hunting, F. R. C. V. S. of London, a gentleman who has had perhaps as much practical experience with glanders as any other man living. I enclose the advertisement of this work in case you should wish to order a copy, and am sending you also a few of the publications of this department.

I have placed your name on our permanent mailing list, so that you may receive anything which we may issue in future.

I shall be very glad at any future time to give you any further information in my power on this or similar subjects. Yours faithfully,

(Signed) J. G. RUTHERFORD,
Veterinary Director General.

ATTITUDE OF THE U. S. BUREAU OF ANIMAL INDUSTRY.

Passing from Canada let us see the attitude of the United States Department of Agriculture toward glanders. It is to be remembered that the Bureau of Animal Industry of the Department of Agriculture is very liberally supported by the United States Government, and that it has devoted much time and study to the practical management of glanders, and it may be added that its chief and corps of workers are, in point of ability, second to none in the world. It will be remembered that when glanders broke out in Cook's stable, a representative of that Bureau was sent to Jacksonville, and approved of everything done by the Veterinarian of the State Board of Health. And it will be remembered that when the disease lately made its appearance at Ocala, a representative of the Bureau was likewise sent to Ocala, and approved of the work of the Board.

But over and above all that the following letter was addressed to the Chief of the Bureau of Animal Industry:

EXECUTIVE OFFICE,
STATE BOARD OF HEALTH OF FLORIDA,
JACKSONVILLE, FLA., July 26, 1909.

Hon. A. D. Melvin, Chief, Bureau of Animal Industry, Washington, D. C.

DEAR SIR—Within the past two months we have had in this State two outbreaks of glanders of considerable magnitude. The State Board of Health has taken the position that ALL ANIMALS GIVING THE MALLEIN REACTION SHOULD BE SPEEDILY DESTROYED. This, of course, has given rise to some opposition, and to considerable discussion as to the merits and demerits of the procedure. Quite recently the Governor of the State has been interviewed on the subject and quotes Colonel Scott, Superintendent West Point Academy, as authority as to how glanders was managed in the Philippines, and also for the authority that mallein may cure the disease in its incipiency. See enclosed newspaper clipping.

Now, what I would like to know is:

1. Does the injection of mallein exercise any known curative effect on glanders?

2. Is it a safe procedure to quarantine horses that give the mallein reaction and keep them with the hope that they will recover, i. e., is it safe so far as eradicating the disease is concerned?

3. Admitting that a certain number of glandered horses eventually recover, is it an economical procedure to quarantine those giving the mallein reaction, but showing no other symptoms of the disease? i. e., under the most favorable circumstances, would a sufficiently large per cent. recover to justify the keeping them in quarantine and feeding them till the cases terminate, either by recovery or death?

4. Would there be any hope of ever eradicating glanders by keeping and using horses that give the mallein reaction till such time as other symptoms develop? i. e., could the disease be eradicated by destroying horses only after they show clinical evidence of the disease?

5. In the light of present knowledge, what is the most approved method of dealing with the disease, in a State not thickly populated, and where there is every reason to believe that glanders has only a very limited hold?

I will be under many obligations to you for answer in detail to these inquiries.

Very truly yours,

(Signed) JOSEPH Y. PORTER,
State Health Officer.

To this the following reply was received:

UNITED STATES DEPARTMENT OF AGRICULTURE,
BUREAU OF ANIMAL INDUSTRY,
WASHINGTON, D. C., August 6, 1909.

Dr. Joseph Y. Porter, State Health Officer, Jacksonville, Fla.

SIR—Referring to your letter of the 26th ultimo, enclosing newspaper clipping pertaining to the methods of controlling glanders among horses in the State of Florida, and the attitude taken by the Governor of the State and by the State Board of Health, you are advised that in view of the investigations of this Bureau, your questions may be answered as follows:

I. The injection of mallein is not known to positively exert any curative influence upon a case of glanders. The theory of its possible curative effect has been advanced by a number of investigators, but has not been substantiated by proof.

II. The quarantine of horses, which have reacted to the mallein test is not considered advisable when a campaign is in progress for the eradication of the disease.

III. Although it is possible that in some instances a glandered horse may recover, yet it would not be an economic procedure to quarantine horses which react to mallein, without showing clinical evidence of glanders, with the hope that recovery might occur in some instances. If, as stated above, there should be a recovery in an individual, the percentage of such recoveries is so low that it would not justify the expense of quarantine and care of a number of animals.

IV. It would not seem that the eradication of glanders would be accomplished by the slaughtering of only such horses as show clinical evidence of the disease. By retaining a non-clinical reactor, and using this animal, it is probable that the disease would progress to a clinical or open stage before it would be known, the animal thus acting as a center for the dissemination of glanders to those animals with which it comes in contact, or by the infection of public watering or feeding troughs.

V. In the region where glanders has a limited hold, such as you state to be the case in Florida, it is recommended that all suspicious horses, and those which have been exposed to the possible contagion of glanders, should be subjected to a mallein test. If you so desire, the first reaction to mallein may be followed by a second test, or by the agglutination test. All cases which are then found to be affected with glanders should be immediately quarantined and slaughtered as early as practicable.

Very respectfully,

(Signed) A. D. MELVIN,
Chief of Bureau.

GLANDERS IN FLORIDA.

Prior to 1903 there seems to be little or no available data as to the prevalence of glanders in Florida, so that our experience with the disease is practically embraced in the last six years.

During the Spanish-American War, when large numbers of horses were brought into Florida awaiting shipment to Cuba, glanders prevailed at some of the army posts, but the disease did not spread from these foci, and when the army was withdrawn, they left in their wake no trace of the disease. But this was no virtue of their own, for in one instance a volunteer quartermaster undertook to sell a lot of glandered horses at auction in Jacksonville, but was restrained by the State Health Officer.

For a time after the war it seems that Florida was almost or quite free from glanders, and doubtless would have remained so but for the importation of glandered animals. This has been done in five instances. Twice it was detected soon after its introduction—once before the horse was unloaded from the car in Jacksonville, and once when the infected animal had infected only one other. But three times it has gained a foothold and each time it has left in its wake an infected territory in which glanders have continued to crop out here and there from time to time.

Dating from 1903, when it first came to the notice of the State Board of Health that the long and peaceful respite from glanders was broken, there have been up to the present writing, August, 1909, 275 cases of glanders in the State, representing a money value of not less than fifty thousand dollars. Much of this would have been averted if the advice of the State Board of Health has been followed. For instance, in 1907, nineteen horses were diagnosed as having glanders in Lake City. Five of them were spared by the owners because they showed no clinical evidence of the disease. The State Board of Health protested but the owners were obstinate, and the law weak, and the animals were not destroyed.

One of the five subsequently infected Cook's stables in Jacksonville and caused the loss of eighty animals. As pointed out above, this latter outbreak would have been entirely prevented if the advice of the Board had been followed at Lake City and the five animals that reacted had been destroyed. Another striking instance where the community paid dearly for their failure to be governed by the advice of the State Board of Health, was in Ocala. In 1905 some thirty animals were diagnosed as having glanders. The Board advised that they should all be destroyed. This was not done. Those showing clinical symptoms were killed and the others kept, some dying of the disease, and some being finally sold. The result was that the disease smouldered in Marion county until it was recently detected, when an orthodox canvass was

made and 59 cases diagnosed. And it is more than likely that the end is not yet.

As before stated, we have had five distinct introductions of glanders into the State from without. The first was in the spring of 1903, when a horse dealer brought a herd of range horses from Nebraska to Orlando and sold them at auction. These horses were scattered over Lake, Orange, Osceola and DeSoto counties. As a result of this wholesale distribution of glandered animals, there were, during the latter part of 1903 and the year 1904, outbreaks of glanders at Zolfo, Lady Lake, Leesburg, Conant, Sanford, Tampa, Winter Park, Narcoossee, Peg Horn and Lake Gentry, resulting in the loss of 41 animals.

This outbreak deserves special mention because it is an object lesson in the management of glanders. It was pretty widely distributed in the four counties mentioned, but it had not been there very long, and the public was afraid of it and willing to give every co-operation in its eradication. Consequently every animal diagnosed as having glanders was speedily destroyed. The result was that it has never reoccurred in that territory since, except at two points. This shows the value of careful and painstaking methods on the part of the State Board of Health and of earnest co-operation on the part of the public, a factor which some other communities have failed to appreciate and for which they have paid all too dearly.

The next introduction was apparently in the spring of 1905 when a horse dealer brought a herd of horses from South Dakota. He first landed them at Ocala, and from there he went to Coleman, Dade City, and finished getting rid of his animals at Tampa. Glanders speedily followed in his wake—30 cases at Ocala, 5 at Coleman, 8 at Tampa, and 2 of the horses from Tampa were subsequently taken to St. Petersburg, developed glanders over there and died. This outbreak also has its lesson in management. At Coleman all glandered animals were killed. Also at Tampa and St. Petersburg. And up to this time there has been no recurrence of the disease at these points, except one case at Tampa three years later, the source of which is unknown. Not so at Ocala. There nine of the thirty died before it was recognized. Eleven showed clinical symptoms and were reluctantly destroyed. Ten showed the disease in its incipiency by reacting to the mallein test. They were in good condition and showed no clinical evidence of the disease and were accordingly not killed. Eventually some of them died and some were sold. Further than this their history is not procurable. But they left their stamp in Ocala. However innocent they might have looked, they planted the deadly infection, and when the day of reckoning came, it was found that Ocala had no fewer than fifty-nine glandered animals, some of which were valued at over a thousand dollars. That is a terrible price to pay for saving ten glandered horses in 1905!

And they were not un-warned of the danger. The State Board of Health advised the destruction of every glandered animal at the time, but its advice was unheeded.

The next introduction of the disease into the State was in 1906, when a band of gypsies sold a horse to a farmer at Altamonte Springs. This horse and a mule were worked together, till it was discovered that they were both sick. In trying to drench the horse, the bottle broke and his throat was cut with the glass, and the animal died from hemorrhage. The mule shortly afterward died of glanders. The disease did not spread for the reason that these were the only animals the farmer had.

In the winter or spring of 1907, Mr. J. T. Jones of Lake City bought a horse in Atlanta. When the animal arrived he was suffering from what was thought to be "shipping cold." It proved to be glanders, and in July it was found that his stables were badly infected, nineteen out of the thirty-six animals either showing clinical symptoms or giving the mallein reaction. Fourteen of the nineteen were killed, but the fatal five that did not show any symptoms of the disease were saved, one of which was eventually brought to Jacksonville, and infected the stables of J. W. Cook, causing the loss of eighty-one animals. Providence is a country place, sixteen miles from Lake City, just across the line in Bradford county. Traveling men drive from Lake City to Providence. Jones was in the general livery business and his teams frequently made these drives. One animal at Providence died of glanders.

Like Ocala, this outbreak has its lesson, which the discerning will not fail to appreciate.

The last known introduction of glanders into the State was another band of gypsies that unloaded in Jacksonville a car of horses from Atlanta. The Veterinarian of the State Board of Health by chance looked into the car before it was unloaded and detected a case of glanders. The gypsies camped some three miles from the city on Kings Road and within an hour after they had struck camp the State Board of Health had them quarantined, waiting to have their entire herd tested. It proved that the one detected in the car was the only case and the owners destroyed him and went their way rejoicing. There is every reason to believe that these gypsies knew that the animal was glandered, though of course they plead innocent. But they admitted that this horse was kept separate from the others in the stable where they made their purchases in Atlanta, and when they struck camp they likewise separated him from the rest of their stock. The very pronounced character of the symptoms was what enabled the Veterinarian of the Board to detect it while the horse was yet on the car.

GLANDERS IN FLORIDA *1903 †1909

Table No. 1. Sources and Recurring Outbreaks

ORIGINAL OUTBREAKS						RECURRING OUTBREAKS			
Year	County	Town	No. of Cases	Totals	Source	Year	Town	No. of Cases	Remarks
1903	DeSoto	Zolfo	9						
1903	Lake	Lady Lake	5						
1903	Lake	Leesburg	7						
1903	Lake	Conant	5						
1904	Orange	Sanford	1						
1904	Orange	Winter Park	5		Herd from Nebraska, sold at Orlando, 1903				
1904	Osceola	Narcoossee	1			1900	Sanford	3	
1904	Osceola	Peg Horn	1			1907	Longwood	11	Near Sanford
1904	Osceola	Lake Gentry	7						
1906	DeSoto	Arcadia	2						
				43					
1905	Marion	Ocala	30						
1905	Sumter	Coleman	5		Herd from South Dakota, Sold at Ocala, Coleman, Tampa, 1905	1909	Ocala	59	
1905	Hillsboro	Tampa	8						
1905	Hillsboro	St. Petersburg	2						
				45					
1907	Columbia	Lake City	19						
1907	Bradford	Providence	1						
1909	Duval	Jacksonville	81		Atlanta				
1009	Duval	Marietta	1						
				102					
1906	Orange	Altamonte Springs	2		Gypsy Traders				
				2					
1907	Duval	Jacksonville	1		Gypsy Traders				
				1					
1903	Hillsboro	Tampa	2						
1904	Jefferson	Monticello	1						
1904	Hillsboro	Tampa	1						
1907	Lee	Fort Myers	2		Not Traceable				
1908	DeSoto	Punta Gorda	1			1908	Tampa	1	
1908	Osceola	Kissimmee	1						
				8					

Total Originals.....201

Recurring Outbreaks.....74 cases
Original Outbreaks.....201 cases
Total.....275

*From withdrawal of U. S. Army in 1898 to 1903 there is no record of glanders existing in Florida.
†1909 figures are up to July 31.

Table No. 2. Distribution of Glanders in Florida, 1903 to 1909, by years, counties and towns.

		NUMBER OF CASES							TOTALS		
County	Town	1903	1904	1905	1906	1907	1908	1909	Town	County	
Bradford	Providence					1			1	1	Bradford
Columbia	Lake City					19			19	19	Columbia
DeSoto	Arcadia				2				2		
DeSoto	Punta Gorda						1		1		
DeSoto	Zulfo	9							9	12	DeSoto
Duval	Jacksonville						1	81	82		
Duval	Marietta							1	1	83	Duval
Hillsboro	St. Petersburg			2					2		
Hillsboro	Tampa	2	1	8			1		12	14	Hillsboro
Jefferson	Monticello		1						1	1	Jefferson
Lake	Conant	5							5		
Lake	Lady Lake	5							5		
Lake	Leesburg	7							7	17	Lake
Lee	Fort Myers								2	2	Lee
Marion	Ocala					2			89	89	Marion
Orange	Altamonte Springs			30				59	2		
Orange	Longwood				2				11		
Orange	Sanford		1			11			4		
Orange	Winter Park		5			3			5	22	Orange
Osceola	Kissimmee								1		
Osceola	Lake Gentry						1		7		
Osceola	Narcoossee		7						1		
Osceola	Peg Horn		1						1	10	Osceola
Sumter	Coleman		1						5	5	Sumter
				5							
Totals by years		28	17	45	4	36	4	141	275	275	

As before said, the policy pursued by the Canadian Government is exactly the policy pursued by the State Board of Health of Florida. As before stated, the State Board of Health has pursued this policy ever since it has had anything to do with the management of glanders. Under the old law the duties of the Board were discharged when the disease was diagnosed and the owner notified. Even then the Board advised the destruction of glandered animals, whether they showed clinical symptoms or not. But under the new law the owners are reimbursed, within certain limits, and the powers of the Board are somewhat extended. In fact the State Board of Health under this statute, is given the power to pursue its policy unrestricted. The only other thing now required to make the management of glanders in the State as perfect a success as it is possible to attain, is the co-operation of the public, which we are pleased to state the Board is now getting, almost to a man.

There is one other feature of the policy of the State Board of Health to be explained more fully. It has been pointed out that the Board does not resort to the "big stick." This would not be practicable in the management of glanders, for the reason that an unscrupulous horseman can vitiate the mallein reaction any time that he so desires. For instance, there are four known reactors in the State now—horses that the owners refused to kill when diagnosed as having glanders in Cook's stables. They are not confined, but are being used as well horses by the owners. The question has been asked: "Why doesn't the State Board of Health retest these horses now under the new law and if they are found to react, order them destroyed?" The answer is this: That if the owner chooses to resist he can do so, and do it successfully. He could not, perhaps, keep the Board from testing his horse, but he can easily keep the horse from reacting when the Board does test him. And that would serve an unscrupulous purpose just as well.

THE ECONOMIC SIDE.

There is no better way of determining whether it will pay to keep the non-clinical reactors, in the hope that they will recover, than by making application of known figures to a concrete example.

In the recent outbreak in Cook's stables, Jacksonville, there were some 81 horses diagnosed as having glanders. Just how many were non-clinical cases, I do not know, but it was somewhere about sixty.

Suppose that instead of these animals being killed, they had been isolated, kept and treated, until such time as the cases all terminated by recovery or death. Let us see what it would cost to keep them, how long they would have to be kept, and how many would recover.

As to cost of keeping horses, that varies a good deal under different conditions. In a city where rent is high it would cost more than in the country. A horse at work would cost more than one at rest. In

Jacksonville it costs the Board of Public Works, I understand, about $15 a month each for the keep of their horses and mules. Horses not at work might be kept and cared for in Jacksonville for $10 a month, but that is doubtful. Particularly, if they are glandered horses and have to be carefully isolated not only from other horses but from one another; and this latter precaution is absolutely necessary, for unless it is done, those that develop active symptoms will pass the infection round, reinfecting others, until none will escape. But in order to be especially conservative in this matter of calculation, we will cut this in half and suppose that every horse can be kept for the small sum of five dollars a month. Then the 60 horses will cost $300 a month or $3,600 a year.

Now, let us see how long this will have to be kept up. We have seen that "King," a bay gelding, reported by Dr. Rutherford, ceased to react three times in three years, and each time after a period of rest would react again. And we have seen that ceased reactors are capable of transmitting glanders and therefore a source of danger to other animals. Therefore it would not be safe to pronounce a horse *well,* under three years at least. It might be more. Therefore these horses have all got to be kept till such time as they develop clinical symptoms, or for three years. To be eminently fair again, we will assume that they have to be kept on an average of eighteen months. This then would make the sixty horses that we started with, at $5 a month each, cost $5,400.

It now remains to see how many of the sixty would recover, that is how many well horses we would get for the $5,400 expended and for our pains.

Melvin says: "Although it is possible that in some instances a glandered horse may recover, yet it would not be an economic procedure to quarantine horses which react to mallein, without showing clinical evidence of glanders, with the hope that recovery might occur in some instances. If, as stated above, there should be a recovery in an individual, the percentage of such recoveries is so low that it would not justify the expense of quarantine and care of a number of animals."

Rutherford says: "Two years ago I stated that about twenty-five per cent of our non-clinical reactors had ceased to react and were apparently free from glanders. At that time I expressed my great disappointment with the small return which the percentage gave for the risk and labor involved in carrying on the retests and announced that it was our intention to discontinue that method of dealing with glanders and adopt the plan which we are now following. I am sorry to have to tell you that in classing all these as safely ceased reactors, we were seriously in error. During the intervening period a considerable number of them have rejoined the reacting ranks, and have been condemned as diseased."

With this testimony before us, we can not possibly assume that twenty-five per cent of the non-clinical reactors will recover. But in order to be most eminently fair and conservative, we will assume that much any way. Then at the end of 18 months we would have only 15 horses out of the sixty, which would have cost $5,400 in feed alone, and would have cost eighteen months' care, eighteen months' housing, eighteen months' treatment, and the added risk of infecting other animals or man, and in the end we could not be sure of a single one of these animals that sooner or later he would not come down with the disease and reinfect the stables. In other words, each one of these fifteen doubtful horses would have cost $350, plus all the other trouble and expense mentioned, even at the very, very conservative figures we have taken, which all will admit are entirely beyond hope of reaching. You see we have based this estimate on $5 a month for feed, and it will more likely reach $10; in that case each horse would cost $700 instead of $350. And we have assumed that twenty-five per cent will recover—but Rutherford says this is entirely too high, so that would add still more to the cost.

Now, take these data and sit down and do a little "sum" in arithmetic. Supposing that some one were to offer you a gift of 100 non-clinical reactors, value in health $175 each, could you afford to accept the present, and quarantine them and treat them and feed them from eighteen months to three years for the less than twenty-five per cent of them that would recover? Take your pencil and figure this out and see if you could afford to accept such a gift.

THE GLANDERS LAW IN FLORIDA.

The following is a copy of the law in regard to glanders as passed by the Legislature this year:

CHAPTER 5933 (No. 64).

An Act to Provide for the Prevention, Suppression and Control of Dangerous, Contagious and Infectious Diseases in Domestic Animals and Live Stock, and to Impose Certain Duties and Confer Certain Powers on the State Board of Health for Such Purposes.

Be it enacted by the Legislature of the State of Florida:

Section 1. That it shall be the duty of the State Board of Health of the State of Florida to protect the health of domestic animals and live stock of this State, and to determine and employ the most efficient and practical means for the prevention, suppression, control and eradication of dangerous, contagious and infectious diseases among such animals and live stock. That glanders, anthrax, blackleg, or blackquarter, contagious pleuro-pneumonia, or lung plague, of cattle; rinderpest, or cattle plague, hemorrhagic septicaemia, foot and mouth disease, or aphthous fever of cattle, Southern cattle fever, or Texas fever, sheep scab, mange of cattle or horses, hog cholera, or swine plague, rabies, or hydrophobia, maladie de coit, or eldurine, of horses; advanced or generalized tuberculosis, or tuberculosis of the udder, and all other diseases of domestic animals or live stock which shall, by rule of the said State Board of Health be pronounced, defined and declared to be contagious or infectious and dangerous to

the life of other domestic animals or live stock, or to human beings, are hereby declared to be nuisances.

Sec. 2. That it shall be the duty of all practitioners of veterinary medicine, and of the owner of any animal or live stock afflicted with or suffering from any of the diseases mentioned in Section 1 of this Act, or pronounced, defined or declared by rule of said State Board of Health pursuant to the provisions of said Section 1, immediately upon gaining information of the existence of any such disease in or among such domestic animals or live stock, to report the same to the State Health Officer of the State of Florida. All such reports shall be in writing and shall describe the diseased animal or live stock, and shall give the name and address of the owner or person in charge thereof, and the place where the same are kept.

Sec. 3. That no person who has knowledge of the existence of any of the contagious or infectious diseases in or among domestic animals or live stock enumerated in Section 1 of this Act, or pronounced, declared and defined by said State Board of Health as aforesaid, or who shall have knowledge that any such animal or live stock is afflicted with or suffering from any such disease, shall conceal or attempt to conceal such diseased animal or live stock or knowledge of such diseased animal or live stock, from the State Health Officer or the Veterinarian of the State Board of Health, or any other officer, representative or agent of said State Board of Health, or shall remove or attempt to remove such animal or live stock from the reach, care or control of such State Health Officer, Veterinarian of the State Board of Health, or any officer, representative or agent of said State Board of Health.

Sec. 4. That it shall be unlawful for any person to move upon or across any public highway, or to expose to contact with other animals, or to take, carry or leave in any public place any animal or live stock known to be suffering or afflicted with any of the contagious or infectious diseases enumerated in Section 1 hereof, or pronounced, declared and defined by said State Board of Health as aforesaid, except by and with the written permission of the said State Health Officer, Veterinarian of the State Board of Health, or some other officer, agent or representative of the said State Board of Health.

Sec. 5. That said State Board of Health shall have the power to employ a skilled veterinary surgeon, at a salary to be fixed by said Board, to be known as the Veterinarian of the State Board of Health, who shall have and discharge such duties as may from time to time be imposed upon him by said Board or said State Health Officer, and to employ agents and representatives of said State Board of Health and of said State Health Officer to perform any duties in connection with the administration of this Act that may be imposed upon them by said State Board of Health or said State Health Officer from time to time.

Sec. 6. That the said State Board of Health is hereby authorized and empowered to establish, maintain and enforce such quarantine and other measures relating to the care and movements of animals and live stock suffering from or afflicted with any such contagious or infectious disease, and to make, adopt and enforce from time to time such rules and regulations as may be necessary or proper for the enforcement of this Act, and to carry out the purposes thereof.

Sec. 7. That the State Board of Health shall by rule provide for a safe and effectual manner for the disposal and destruction of the carcasses of domestic animals or live stock which shall have died from or while afflicted with any of the contagious or infectious diseases enumerated in Section 1 of this Act, or pronounced, defined and declared by said State Board of Health, in such a manner as to prevent the continuance or spread of such contagion or infection.

Sec. 8. That it shall be the duty of the State Health Officer, upon being notified of the existence, or suspected existence, of any case of contagious or infectious disease in any domestic animal or live stock enumerated in Section 1

of this Act, or pronounced, defined and declared by said State Board of Health under the provisions of said Section 1, to cause said animal or live stock to be examined by said Veterinarian of the State Board of Health, or any other agent or representative of said State Board of Health thereunto duly authorized in writing by said State Health Officer, and if, after such examination, the said State Health Officer shall declare said animal or live stock to be infected with any such contagious or infectious disease, the said State Health Officer shall have the power to place such animal or live stock, and all other animals which have been exposed to said contagion or infection, in quarantine during such length of time and under such circumstances as said State Health Officer may determine to be proper. That said State Health Officer shall have the power to condemn any animal or live stock which he shall so determine to be infected with any contagious or infectious disease, and thereupon it shall be the duty of the owner or person in charge of such animal to kill the same forthwith, and make such disposition of the carcass thereof as may be provided by the rule of said State Board of Health hereunder. That if the owner or person in charge of any such animal or live stock shall refuse to kill said animal or live stock when thereunder required by said State Health Officer, it shall be the duty of the State Health Officer to order the Sheriff, or any Deputy Sheriff, in the county in which said animal or live stock may be, to kill said animal or live stock immediately and dispose of the carcass thereof in the manner prescribed by such rules, and in such case the State Board of Health shall have the right to recover by an action of assumpsit from the owner or person in charge of such animal or live stock, the cost of killing the same and disposing of the carcass thereof as aforesaid.

Sec. 9. That whenever any animal or live stock shall be killed by the owner thereof, pursuant to the orders of said State Health Officer under the provisions of this Act, the owner of such animal or live stock shall be entitled to be paid for such animal or live stock by the State Board of Health in the following manner:

The owner of the animal or live stock shall appoint one appraiser, the State Health Officer shall appoint another, and the Veterinarian of the State Board of Health shall constitute a third, and such three appraisers so appointed shall, upon taking oath, render just and true appraisement of such animal or live stock, proceed to appraise the value thereof, taking into consideration their actual value and condition at the time of such appraisement, and such appraised price shall be paid by the said State Board of Health in the same manner as its other expenses are paid; *Provided,* That no more than seventy-five ($75.00) dollars shall be paid for any horse or mule, and no more than fifty ($50.00) dollars shall be paid for any other domestic animal which shall be condemned and killed in the manner hereinabove provided; and *Provided further,* That no animal or live stock shall be paid for by said State Board of Health, unless the owner thereof shall first make it appear to the satisfaction of the State Health Officer:

(1) That said animal or live stock shall have been owned and kept in the State of Florida one year previous to its condemnation.

(2) That said animal or live stock contracted the disease for which it had been condemned while in the State of Florida; and

(3) That no person shall be paid for more than ten (10) animals in any one year.

Sec. 10. That the State Health Officer, Veterinarian of the State Board of Health, or any authorized representative or agent of the State Board of Health, shall have the right at all times to enter any premises, farms, yards, fields, pens, abattoirs, slaughter-houses, cars or vessels where any domestic animals or live stock are at any time gathered or kept, or wherever the carcass of any such may be, and to determine in such way as may be deemed necessary

whether said live stock are or were suffering from or the subject of any such contagious or infectious disease.

Sec. 11. That any person or persons who shall violate any provisions of this Act, or any rule or regulation of the State Board of Health adopted hereunder, or who shall unlawfully interfere with the State Health Officer, Veterinarian of the State Board of Health, or any agent or representative of said State Board of Health, or State Health Officer, appointed under this Act, shall be deemed guilty of a misdemeanor and, upon conviction thereof, shall be punished by a fine not exceeding one thousand dollars or by imprisonment not exceeding one year, or both, in the discretion of the Court.

Sec. 12. That the Circuit Courts in Chancery of this State shall have the power to enforce any of the provisions of this Act and any rule of said State Board of Health hereunder, and to issue writs of injunction upon the application of the State Board of Health against any person who shall violate or attempt to violate any of the provisions of this Act, or any rule or regulation of said State Board of Health made hereunder.

Sec. 13. The provisions of Section 9 of this Act shall be retroactive and shall apply to any and all animals killed in Florida, in compliance with the laws of the State of Florida, within two years next prior to the passage of this Act.

Provided (1), That the value of all animals so killed in compliance with the laws of the State of Florida, within the two years next prior to the passage of this Act, shall be appraised as of the time when the owner of said animals received from the State Health Officer notification of their diseased condition; (2) That it shall not be necessary for the owner of such animals to make it appear that said animals so killed were in the State of Florida one year previous to notification of their diseased condition; (3) That any person may be paid for any number of animals killed within any one year when such animals were killed within two years next prior to the passage of this Act.

Sec. 14. All laws or parts of laws inconsistent herewith are hereby repealed, and this Act shall take effect immediately.

Approved June 8, 1909.

THE RECORD CO. ST. AUGUSTINE, FLORIDA

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HON. E. M. HENDRY, President, Tampa, Fla.

HON. H. L. SIMPSON, M. D., Pensacola, Fla.

HON. JOHN G. CHRISTOPHER, Jacksonville, Fla.

EDITED BY

JOSEPH Y. PORTER, M. D., Secretary and State Health Officer.

HIRAM BYRD, M. D., Assistant State Health Officer.

Offices:

Jacksonville, Dyal-Upchurch Building.

Key West, Room 10, Monroe County Court House.

Laboratory: Jacksonville, L'Engle Building.

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Any information you want about diseases of domestic animals we will help you to get.

Let us do our work as well,
Both the unseen and the seen;
Make the house, where Gods may dwell,
Beautiful, entire, and clean.

—Longfellow.

(The school year in Florida generally commences in October; therefore, this number of the HEALTH NOTES will be devoted to considering special subjects connected with this important topic.)

THE WARDS OF THE STATE

OUR SCHOOL CHILDREN

The State exercises a supervision and assumes a certain amount of responsibility in connection with the physical as well as intellectual development of its future citizens, when it forbids the conjugal union of persons without legal permission. This would seem to be both a wise as well as a far-reaching policy when carefully and cautiously enforced, tending to better morals and a more general healthfulness of the human kind, for it would prevent those who are physically defective from entering into marital relations and thus assuming obligations which a contract of this character naturally implies. The county official having the authority to grant or to refuse permission on the part of the State for this important function, has a responsibility resting upon him of no light moment if he will at all times inquire diligently into the health conditions of the parties applying for this license. Much misery can be averted and be prevented in after life, if individuals are kept apart by the authority which the State can exercise, who, ignorant of the infirmities of each other, and impelled by a sentiment, think they can be fruitfully mated. If the State of Florida will only go a step farther in the supervision of marriages, and add to the present requirements for the license issuing official that a certificate of perfect health from both contracting parties, given over the signature of a reputable physician, shall not only be an absolutely indispensible test of fitness but primarily a requisite for the contract, the State of Florida will have in the future a race of sound and healthy citizens, free from moral and disease taint of every kind.

These thoughts suggest themselves to the NOTES when considering the physical welfare of the school children of the State, for if the State is in the main responsible, by legalizing conditions contributing to their existence, then it is plainly the duty of the State to throw around these wards of the commonwealth every safeguard during the school years, which is that part of their lives when they are struggling to acquire mental and physical strength. School hygiene, school house

construction, regulations of hours of study, and systematic and proper application of athletic exercises are matters deserving of more than cursory attention on the part of the State educational authorities, for it is not possible for the child to receive the very best of mental growth unless the body as well as the mind is in a healthy, receptive state. *Mens sana in corpore sano* has long since been recognized as an axiom in educational circles, and attention is being paid more and more by the best institutions of learning to the improvement of the body as well as of the mind.

The United States military institutions of learning—the Army and Navy Academies—will accept no boy for service under the Government who is not free from bodily defects of any and every kind. A strict physical examination is made of every appointee and it matters not how brilliant the applicant may be in intellectual acquirements, if deficient in physique, admission is refused. So, too, in the file of the military services. Soldiers and sailors undergo rigorous examination, and careful scrutiny is had of the entire body before enlistment is made, for the Government demands that its fighting force shall at all times be capable of enduring hardships and extreme tension of muscle and nerve, whenever it may be called upon to meet such conditions.

Such an exact test of physical soundness is not practical in application, nor can it be said to be demanded for admission to schools in civil life. There is no doubt, however, but that a more careful and critical inspection should be exercised in admitting pupils in the schools of the State than is now practiced. Children showing in their appearance the slightest suspicion of pulmonary tuberculosis (consumption) should be required to present a physician's certificate of freedom from this disease, based upon auscultation and likewise upon microscopic examination of sputum which has been made at the laboratory of the State Board of Health; else the child should be refused enrollment. (Parenthetically it may be here observed that a laboratory examination costs nothing to the physician nor to the pupil, except possibly the trouble of collecting the same and the postage on the container to the laboratory.) No extended argument is needed to explain the wisdom of such an injunction, for either private or public schools.

Trachoma, a granular condition of the lids of the eyes, is another highly contagious disorder not infrequent among school children, and should be carefully watched for on the opening of schools that pupils suffering therefrom may not be allowed to mingle with healthy children.

Purulent opthalmia is a common trouble among children in the peninsula portion of the State, prevailing during the summer and fall months. It is contagious, productive of pain and marked discomfort by causing sensitiveness to light, besides of infinite trouble and anxiety to parents. It is needless to say that children so affected should not be admitted to any school and should be kept away from other children until perfectly well again.

Purulent ophthalmia is a common trouble among children in the thus avoiding panic and a breaking up of the school year from a possible outbreak of this disease in a child not properly or successfully protected. Several counties in Florida insist upon this requirement, but it is regretfully stated that the majority of the County School Boards and Superintendents observe this requirement of a rule of the State Board of Health more in the breach than in an observance.

While most attentive care should be given to a detection of the contagious disorders of childhood which may inadvertently find entrance into the school room to the detriment of the entire school personnel, yet there is a disorder far too common among children in the sandy districts of the peninsula of Florida, which the school authorities, especially in the country precincts, should give heed to, that by advice and counsel to parents the child may be relieved of the blood-sapping parasite which produces such destructive anæmia of both body and mind. The pinched features, dwarfed stature, abdomen out of all proportion to height or body weight, together with bloodless lips and ear tips, conjunctivæ, capricious appetite with vicarious tendencies, and a marked dullness of mind, is a picture which cannot be mistaken, and marks the child as a hookworm subject. These children, who are not getting a "square deal" out of life in their present condition, it is possible to help and to save. The remedy is so simple and the path to recovery so smooth and plain, that it is not sensible to suppose that any parent would refuse the aid offered to restore their child or children to healthful vigor, especially when the advice is given free of charge.

It is right here that the school authorities can do sanitary missionary work. And if the State Board of Education will direct every teacher to report in writing to the office of the State Board of Health at Jacksonville, the name and residence of every child in his or her class who shows symptoms of the "hookworm disease," the State Board of Health will then have intelligent information upon which to formulate an aggressive campaign against a disorder which has brought so much of derision and opprobrium upon the youthful citizens of many of our Southern States.

Cleanliness is the foundation stone of sanitary teaching and knowledge; therefore, children should be warned that if they are not cleanly in their dress and person, as far as can be outwardly observed, they cannot be enrolled as pupils, nor can they be admitted each day to class if their personal hygiene is not as it should be. Each child ought to be cautiously looked over every morning before being admitted to class rooms so that the least indisposition may be detected and the cause inquired into: the slightest suspicion of illness should not pass unnoticed or unattended to. An unusual languidness on the part of the child should be a good reason for a note to the parent to inquire into the cause therefor.

If a child complains of difficulty in swallowing, or that its throat "hurts," the parent should be immediately informed, and the child sent home, that the family physician may determine the character of the distress or complaint. Thus can incipient cases of diphtheria be promptly detected and treated, to the recovery of the child when measures are promptly administered, and a prevention of spread of the contagion among the others of the school.

The Notes does not wish to be misunderstood or as advising that the teacher should be expected to act as a sort of nursery governess, when it advocates the supervision by the teacher of each school grade of the personal hygiene and general sanitation of the children under his or her care. By no means. But who can better direct the pliable and teachable mind to follow in the direction of cleanly habits and rightful sanitary living than the teacher, for whom almost all children have an idolatrous attachment? It is by no means belittling the profession of teaching to instruct in hygiene and in what is good sanitation, as well as to teach arithmetic, geography and grammar.

Chapter 5931, of the Laws of Florida of the session of 1909, permits the State Board of Health to exercise a sanitary supervision of all schools in the State, and therefore the Board possesses all necessary authority to formulate rules which would embrace all the questions discussed in this article, but the Board prefers that the initiative in this matter shall be from the State Educational Department, to whom the Board of Health offers plenary assistance of the Executive Officer, both to make examinations of school children prior to enrollment at each school term, and also from time to time to ascertain if the requirements of the State Board of Public Instruction in these respects are being followed and complied with.

MENTAL HYGIENE FOR THE SCHOOL ROOM.

(*Reprint.*)

It has been suggested to THE NOTES that a few plain and practical words on this subject will be profitable and timely, particularly as the qualifications for teaching in the public schools of the State is just now being determined and thereby prominently brought to public attention. Our friend who makes the suggestion thinks that the subject of psychological hygiene for the scholar is not given sufficient care nor thought by those who daily impart the elements of education to the growing child, and THE NOTES, in great part, agrees with our correspondent. *Mens sana in corpore sano* is something more than a physically sound and active mental ability. It means, besides a morally pure intellect, one in which the ambitions and desires of youth are stimulated and directed to lofty purposes.

The mind is the crowning glory of the human being, distinguishing and separating him from the rest of the animal kingdom, but if the products of the mind are not trained and guided in the right direction this distinction becomes one in name merely and not in reality.

In the school room equally as well as at home is this moral-mental training to the growing child of the utmost importance. The observant teacher can very soon discover the trend of mind of each scholar. In the very young small things very early indicate the character to be dealt with and whether good or evil predominates. Such little things as slate pictures and writings passed from one child to another during school hours often tell the tale of moral rectitude or vicious inclinations, and the correction of the latter trait should receive more attention from the teacher than mere corporal punishment. The responsibility upon the teacher in this regard is far greater than we think is appreciated, for it involves a labor more tiresome and nerve straining than the mere imparting of dates in history, describing latitude and longitude of places or demonstrating problems in mathematics. It embraces the special duty of a problem of life in the case of training of each particular child, the satisfactory solution of which must decide the ability to lead the mind of the scholar in a direction which, besides promising a liberal literary education, will make and fit him to be a good citizen and a useful member of society. The duty of the teacher to the public and to the child does not end with the hearing of lessons or the explaining of subjects. The teacher's life out of the school room should be an object lesson for the child to reverence and imitate, and it does have its influence. The school room should also be filled with an atmosphere of purity and moral excellence so that the finer qualities of the mind may, in productive soil, fructify and blossom into a perfect manhood and womanhood. Children and young people in general are involuntary and wonderful expositors of the interior nature of those with whom they have to deal. In vain would a sour, morose tempered person array his face in smiles and offer the most tempting baits to procure their favorable notice. It may be granted for the moment, in order to secure some proffered pleasure, but honest instinct, long before intelligence is mature enough to define the nature of sympathy or antipathy, will prompt the recoil which unamiable tempers always suggest. As actually and rapidly also will these intuitive critics take the measure of the mind and the value of the principles of those who are deputed to govern them. You expect Mr., Mrs. or Miss Teacher (as the case may be) that your excellent precepts and instructions will be as earnestly and satisfactorily received by your pupils as they are delivered by you. Not a shadow of a doubt enters your well intentioned imagination respecting their entire conviction of your being yourself as admirable and praiseworthy a person you are so strenuously recommending them individually to become, but be assured that if you are not at heart a lover and practicer of the principles you advocate, your exhortations will be to them as "sounding brass and tinkling cymbals." Not more surely does the sun radiate light and heat than the inner nature of the human being radiates its actual condition on all within its sphere.

Much more might be written on this subject, if space permitted, for that which is to benefit coming generations is both interesting and instructive, but in this as in all other matters connected with hygiene

and sanitary relations of individuals to each other and to the public in Florida, THE NOTES aims to indicate mere hints and lines of thought which it hopes reflective readers will enlarge upon for themselves. To the teachers of the State these ideas of mental hygiene are especially offered, and it is asked that each will determine and answer for herself this question on instructing a child how far, in a moral sense, "am I my brother's keeper?"

SANITATION IN THE PUBLIC SCHOOLS

The Massachusetts Board of Education has prepared and distributed a little pamphlet entitled "Medical Inspection. Suggestions to Teachers and School Physicians."

It should be stated in this connection that in Massachusetts each school has what is called the school physician. The duties and responsibilities of the school physician, it seems, are not very well outlined by the State Statutes, but each school is left to define its own rules. The following rules apply to the schools at Lawrence:

SECTION 1. The school physician shall have general oversight of the sanitary condition of school houses. He shall file with the superintendent, for reference to the committee on schoolhouses and sanitation, all recommendations for better conditions of heating, lighting, ventilating and sanitary cleanliness.

SEC. 2. He shall make an examination of every pupil referred to him by the principal or teachers as to eyesight, hearing, accident, illness, suspected contagious diseases, as smallpox, scarlet fever, measles, chickenpox, tuberculosis, diphtheria, influenza, whooping cough, scabies, trachoma, etc., and if found to be suffering from any of the above, the pupil shall at once be sent home.

SEC. 3. He shall vaccinate all pupils applying for admittance to the public schools whose parents cannot employ the services of a physician. He shall be present at the office of the superintendent for this purpose on Mondays, Wednesdays and Fridays, during the month of September, and on Tuesdays and Fridays thereafter.

SEC. 4. He shall consult with the principals, and devise the best course to pursue in certain cases of defective eyesight and hearing, with the object of having the pupils with such defects derive the full benefit of their school work so as to prevent further injury to the pupils with such defects.

SEC. 5. In certain cases the school physician shall at the request of the truant officers, examine pupils who are absent from school for unknown cause, to ascertain whether or not they are able to attend school.

SEC. 6. The examination of eyesight and hearing shall be made by the teacher, and if found defective shall be referred to the school physician for further examination. The physician in turn shall notify the parents or guardian of such defect.

SEC. 7. He shall give instructions to the teachers as to the proper method

of detecting defective hearing and eyesight, proper ventilation and sanitation, and the detection of certain forms of illness.

SEC. 8. In accordance with Section 3, Chapter 502, Acts and Resolves of 1906, he must examine children returning to school without a certificate from the Board of Health, after absence for unknown cause, with a view to keeping all infectious diseases from the schoolroom.

SEC. 9. The school physician when he sends a pupil home shall send a written communication to parents or guardian, stating the reasons why said pupil was dismissed.

SEC. 10. He shall see that the janitors keep their buildings in a clean condition, so as not to endanger the health of any pupil.

SEC. 11. He shall visit each school for a thorough inspection at least once a week, and oftener if the superintendent or principal of a school deem it necessary.

SEC. 12. He shall similarly inspect the evening schools as to eyesight, hearing, contagious diseases and illness of pupils while at school.

SEC. 13. He shall examine certain cases where pupils ask exemption from evening school on certificates that are not satisfactory to the school authorities.

In order that the medical inspection might be uniform throughout the State the Governor appointed a committee to prepare a circular of advice to the school physician.

On this committee were represented three organizations: the State Board of Health, the State Board of Education, and the medical profession at large, and it was this committee that prepared the pamphlet above alluded to. It is so well written that portions of it, at least, are difficult to improve upon. Under the heading, "INFECTIOUS DISEASES," we find the following:

DIPHTHERIA.—It is a well recognized fact that nasal diphtheria of a mild type without constitutional disturbance is one of the most important factors in causing the spread of the disease, and also that children very frequently have profuse discharges from the nose. It therefore follows that, in order to properly inspect the public schools, it is important that cultures should be taken from the nose in every case where there is a persistent discharge, particularly if there is any excoriation about the nostrils.

The throat should be examined at varying intervals, depending upon the physical condition of the children. Any hoarseness or any thickness of the voice should cause an examination of the throat. If the tonsils are enlarged, if the mucous membrane is congested, if there is swelling of the palate, a culture should be taken. These symptoms precede diphtheria.

A child with positive cultures should be excluded from the school until two consecutive negative cultures at an interval of forty-eight hours have been obtained.

SCARLET FEVER.—If there is a sudden attack of vomiting, if there is any redness of the throat, if the child complains of the headache, if there is an unexplained rise in temperature, the child should be isolated at once. Any desquamation (peeling of the skin) should be looked upon with suspicion. If there are

any breaks at the finger tips, if on pressing the pulp of the finger there is a white line at the juncture of the nail with the pulp of the finger, particularly if this occurs in the majority of the finger tips, the child should be excluded from the school.

A child who has had scarlet fever should not return to school until the process of desquamation has been entirely completed, and all discharge from the nose and ears has ceased.

Measles.—Running from the nose and slight intolerance of light may call for an examination of the mucous membrane of the mouth for Koplik's sign, so called, is the presence on the lining membrane of the mouth, near the molar teeth, of minute, pearly white blisters, without any inflammation around them. There may be only two or three of these blisters, and they may easily escape detection if the patient is not carefully examined in a good light. These blisters are certain forerunners of an attack of measles.

No child should return to school after an attack of measles until the desquamation is entirely completed, and the child has recovered from the intercurrent bronchitis.

Mumps.—Any swelling or tenderness in the region of the parotid glands (situated behind the angle of the jaw) should be looked upon with suspicion. It is important to notice any enlargement or swelling about Steno's duct (inside the mouth, opposite the second upper molar tooth), as this is a very frequent symptom of mumps.

A child should be excluded from school until one week has elapsed after the disappearance of all swelling and tenderness in the region of the parotid glands.

Whooping Cough.—A persistent paroxysmal cough, frequently accompanied with vomiting, no matter whether there is any distinct whoop or not, is indicative of whooping cough. In cases of whooping-cough of long standing, even if there has been no distinct whoop, an ulcer on the band connecting the lower surface of the tongue with the floor of the mouth is found in a certain number of cases. If there is no distinct ulceration, there may be a marked congestion of the band.

As long as there is any cough, the child who has had whooping cough should be looked upon with suspicion.

Varicella (Chickenpox).—A few black crusts scattered over the body are evidences of an attack of chickenpox. The crusting seen in impetigo must be differentiated from that of chickenpox.

No child should return to school until all crusts have disappeared from the body, particularly from the scalp, for in this region the crusts remain longer than elsewhere.

THE EYES.

There are certain children who show normal vision by the ordinary tests, yet whose parents should be notified to have the eyes examined. These are: (1) children who habitually hold the head too near the book (less than twelve to fourteen inches); (2) children who frequently complain of headache, especially in the latter portion of school hours; (3) children in whom one eye deviates even temporarily from the normal position.

It should be remembered that the following symptoms are at times indicative of trouble with the eyes: (1) habitual scowling and wrinkling of the forehead when reading or writing; (2) twitching of the face; (3) inattention and slowness in book studies in a child otherwise bright.

THE THROAT AND NOSE.

In all cases of acute illness the throat should be examined for the presence of the eruption of scarlet fever and measles and for the exudation or membrane of tonsilitis and diphtheria, and a culture taken in any suspected case of the latter.

The presence of discharge from the nose should be noted, and if it is thick and creamy, a culture should always be taken. In all cases of severe hoarseness, with difficult breathing, diphtheria should be suspected. If the discharge from the nose is only from one nostril, a foreign body in the nose should be looked for.

In cases of chronic nasal obstruction, as evidenced by mouth breathing, snoring, continual post-nasal catarrh or recurring ear trouble, the presence of an adenoid growth (third tonsil) should be suspected, and the child referred for special examination and treatment. As a rule, digital examination for adenoids should be made only by the operating surgeon. Obviously large tonsils, recurring tonsilitis and enlargement of the glands of the neck, suggest the advisability of referring the child to the family physician as to the propriety of removing the tonsils.

Recurring nose bleed should be referred for special treatment.

In cases of eczema about the nostrils, a cause may be sought in pediculi capitis (head lice).

In referring cases for treatment, school physicians, in addition to the diagnosis, should state the symptoms upon which the diagnosis is based, for the benefit of the family physician or specialist.

DISEASES OF THE SKIN.

Scabies (the itch).—A contagious skin disease, due to an animal parasite which burrows in the skin, causing intense itching and scratching. The disease usually begins upon the hands and arms, spreading over the whole body, but does not affect the face and scalp. Between the fingers, on the front of the wrist, at the bend of the elbows and near the arm pits are favorite locations for the disease; but in persons of cleanly habits the disease may not show at all upon the hands, and its real nature is determined only after a most thorough and careful examination. There is a great variation in the extent and severity of this disease, lack of personal care and cleanliness always favoring its development. Scratching soon brings about an infection of the skin with some of the pus-producing germs, and the disease is then accompanied by impetigo or a pus infection of the skin.

At the present time itch is very common and widespread, and, because of the great variation in its severity, mild cases have been mistaken for hives, eczema, etc., the real condition not being recognized and the disease spread in consequence. All children who are scratching or have an irritation upon the skin should be examined for scabies.

It is very important that all infected members of a family be treated till

cured, else the disease is passed back and forth from one to another. It is also important that all underclothing, bedding, towels, etc., things that come in contact with the body, be boiled when washed.

All cases of scabies should be excluded from school until cured.

Pediculi Capitis (Head Lice).—An extremely common accident among children, either from wearing each others' hats and caps, or hanging them on each others' pegs, or from combs and brushes. No person should be blamed for having lice—only for keeping them.

The irritation caused by vermin in the scalp leads to scratching, which in turn causes an inflammation of the skin of the neck and scalp. The skin then easily becomes infected with some of the pus producing germs, and large or small scabs or crusts are formed from the dried matter and blood. Along with this condition the glands back of the ears and in the neck become swollen, and may be very painful and tender. The condition of pediculosis is most easily detected by looking for the eggs (nits), which are always stuck onto the hair, and are not readily brushed off. The condition is best treated by killing the living parasites with crude petroleum, and then getting rid of the nits. With boys, this is easy—a close hair cut is all that is needed; with girls, by using a fine toothed comb wet in alcohol or vinegar, which dissolves the attachment of the eggs to the hair. All combs and brushes must be carefully cleansed.

Children with pediculosis should be excluded from school until their heads are clean. By chapter 383, Acts of 1906, parents who neglect or refuse to care for their children in this respect may be prosecuted under the compulsory attendance law.

Ringworm.—A vegetable parasitic disease of the skin and scalp. When it occurs upon the skin it yields readily to treatment; but upon the scalp it is extremely chronic. Ringworm of the skin usually appears upon the face, hands or arms—rarely upon the body—in varying sized more or less perfect circles. One or more, usually not widely separated, may be present at the same time. All ringed eruptions upon the skin should be examined for ringworm.

When the disease attacks the scalp, the hairs fall or break off near the scalp, leaving dime to dollar sized area nearly bald. The scalp in these areas is usually dry and somewhat scaly, but may be swollen and crusted. The disease spreads at the circumference of the area, and new areas arise from scratching, etc.

Another disease, somewhat like ringworm of the scalp, is known as favus—a disease much more common in Europe than America. In this disease quite abundant crusts of a yellowish color are present where the process is active. The roots of the hair are killed, so that the loss of hair from this disease is permanent, a scar remaining when the condition is cured.

Care must be taken to see that all combs and brushes are thoroughly cleansed, and to prevent children wearing each others' hats, caps, etc. Children with ringworm should not be allowed to attend school.

Impetigo.—A disease characterized by few or many large or small flat or elevated pustules or festers upon the skin. The condition is often secondary to irritation or itching diseases of the skin (hives, lice, itch), and scratching starts up a pus infection.

The disease most often appears upon the face, neck and hands; less often upon the body and scalp. The size of the spots varies very much, and they

often run together to form on the face large superficial sores, covered with thick, dirty, yellowish or brownish crusts.

The disease is contagious, and often spread by towels and things handled. Children having impetigo should not be allowed to attend school until all sores are healed and the skin is smooth.

Under the heading, "Some General Symptoms of Disease in Children," is said:

Emaciation.—This is a manifestation of many chronic diseases and may point especially to tuberculosis.

Pallor.—Pallor usually indicates anaemia. Pallor in young girls usually means Chlorosis—a form of anaemia peculiar to girls at about the age of puberty. It is usually associated with shortness of breath; the general condition otherwise usually appears good. Pallor may also be a manifestation of disease of the kidneys; this is almost invariably the case if it is associated with puffiness of the face.

Puffiness of the Face.—This, especially if it is about the eyes, points to disease of the kidneys; it may, however, merely indicate nasal obstruction.

Shortness of Breath.—Shortness of breath usually indicates disease of the heart or lungs. If it is associated with blueness, the trouble is usually in the heart. If it is associated with cough the trouble is more likely to be in the lungs.

The last three of these symptoms, pallor, puffiness of the face and shortness of breath, in this State point, almost invariably, to hookworms. The attention of the parents should be invited to this by the teacher, and the matter referred to the family physician. The disease is very amenable to treatment, and once the little sufferers are relieved, they put on new life, and are as new children.

In this little pamphlet school hygiene is given a prominent place, as it should be. It is pointed out that the closets should be well cared for, and this is especially important in Florida, for otherwise the dissemination of ground itch and hook worms is almost a certainty.

Of drinking cups it is said:

Cups.—The use of one drinking cup for a number of children is to be condemned, as tending to spread the infectious disease from child to child. The so-called hygienic drinking fountain, now in more or less general use in progressive cities and towns is to be recommended where running water is available. If there is no running water, each child should use his own cup.

School Furniture.—Any proper sort of school furniture should furnish a seat of such height that the feet will rest easily on the floor. It should have a desk high enough not to touch the knees. It should have a desk low enough for the arm to rest on comfortably without raising of the elbow; not, however, so low that the scholar must bend down to write on it.

The seat should be near enough so that the scholar may reach the desk to write on it without leaning forward more than a little, and without entirely losing the support of the backrest. The seat should not be so close as to press against the abdomen nor near enough to interfere with easy rising from the seat. This means a distance of ten and one-half to fourteen and one-half inches

from the edge of the desk to the seat-back; it also means that the seat must not project under the desk more than an inch at most.

The seat should have a back-rest that will support the "small of the back" properly, without having the scholar lean back excessively. Whether it also supports the rest of the back or not is of small consequence; support of the back carried up to the level of the shoulder blades is likely to do more harm than good.

These are given as the minimum requirements. Whether or not regular adjustable furniture is in use, we should not be content with less than the accomplishment in one way or another of these primitive adjustments. More accurate adjustment is desirable, and less care in adjusting would be hard to justify, in the light of our present knowledge of the results of faulty attitude.

The foregoing hints are especially commended to the public schools of Florida.

AWAKENING

Dating from the time of Pasteur, the chief part of whose work was done about a generation ago, there have been great advances made in the entire medical world.

Pasteur and Koch may be said to have generated the science of bacteriology, and that has revolutionized the whole science of medicine, as well as biology. It revolutionized surgery by making possible operations which before were hardly thought of. In 1768 Dr. Laurence Heister said: "At length in the last and present age, by the industry first of the Italians, French, Germans, and more latterly also by the English, surgery has been so wonderfully enriched with extraordinary inventions and observations in anatomy, mechanics and physics and with elegant instruments and new methods of curing that it seems to want little or no addition to raise it to its highest state of excellency and perfection."

The major operations at that time were amputations and operating for stone in the bladder. Anesthesia was not thought of. The patient was held and endured the pain the best he could. Asepsis was not at all or at best an accident. The surgeon operated and washed his hands afterward. Pus was expected, and as a rule the expectation was fulfilled.

Bacteriology opened up another field for the benefit of humanity, a method of curing disease by serum therapy. Diphtheria, which was once almost as great a scourge as smallpox, is now considered practically a thing of the past. In the last nine years, while there have been 258 cases of diphtheria in Jacksonville, there have been only

seven deaths, with a population averaging, perhaps, forty thousand people, and this is typical of the way the disease has been controlled all over the civilized world.

But more important than surgery, more important than serum therapy, both of which undertake to cure, bacteriology has opened up another field which has for its object not the cure, but the prevention of disease. And if there is any one science in all the world that has made any greater strides than any other in the last two decades, it is the science of sanitation. So far as I recall at the present time, there are only two things for which the whole world has organized. The one is the prevention of war, the other the prevention of disease. The International Congress on Tuberculosis, recently held in Washington, was one of the largest and most important gatherings that the world has ever witnessed. Every nation of any standing on the globe was represented at that congress. The congress itself was perhaps less important than the things that it indicates. It shows that the whole human race is rising up *en masse* to combat disease. This uprising is manifested in every possible way through which our civilization manifests itself to the world. Other international organizations along these lines were formed. For example: The International Sanitary Congress of the American Republics, which has an office in Washington, maintains a secretaryship there, and which is soon to have a building there, representing some three-quarter million dollars.

National organizations are formed. The two great political parties of the United States each had in its platform a public health clause. National pure food and drug laws are enacted. Hygienic laboratories as well as State and municipal laboratories are being established all over the world. Philanthropists are leaving immense fortunes dedicated to the public health, as the Rockefeller Institute, the Henry Phipps Institute, and many others. The public press is a unit in agitating and advocating matters for the improvement of the public health.

The pulpit, the college, the university, and even our public schools are devoting much time and thought to sanitation.

The publishers of school text books are recognizing this and are remodeling, rewriting their text-books on physiology and hygiene. At first they merely devoted special chapters to tuberculosis, as in Lippincott's Physiology, then these were enlarged and finally whole books are devoted to the public health and public schools.

But Boards of Education and Boards of Health are not leaving the

publishers to work all those reforms in hygienic literature themselves. They are outlining, writing and even publishing such things as the schools themselves need.

All this means that we are entering upon a new era—an era in which we are going to be more careful of our scholars and that we are going to regard the national health and vigor as the most valuable asset that we have.

Henceforth the public health is not to be subordinated to any public enterprise. In the future dwellings, streets, ditches will be constructed with the idea of the public health dominant. The control of rats, through which plague is disseminated, will dominate the construction of buildings and viaducts. The control of mosquitoes, through which malaria and yellow fever and some other diseases are propagated, will dominate the construction of ditches and drainage canals. The control of flies, which constitute such a large factor in the dissemination of typhoid fever, will dominate the construction, location and management of stables. The control of typhoid fever, which carries away annually so many people, will dominate the methods of sewage disposal. The control of meat- and milk-borne diseases will dominate the management of the beef, pork, mutton and dairying industries, and the final result of all this will be that the preventable diseases will be prevented.

NOTICE.

The regular examination of embalmers will be held in Jacksonville, at the offices of the State Board of Health, on Friday, October 29th. Applicants will please take note.

Record Co. St. Augustine, Fla.

FLORIDA

Health Notes

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Hon. E. M. Hendry, President, Tampa, Fla.
Hon. H. L. Simpson, M. D., Pensacola, Fla.
Hon. John G. Christopher, Jacksonville, Fla.

EDITED BY

Joseph Y. Porter, M. D., Secretary and State Health Officer.
Hiram Byrd, M. D., Assistant State Health Officer.

Offices:
Jacksonville, Dyal-Upchurch Building.
Key West, Room 10, Monroe County Court House.
Laboratory: Jacksonville, L'Engle Building.

Sent to any address in the State for the asking.

If you receive it without asking, it means that someone else has requested it for you.

When you change your address drop us a card.

When giving change of address, give both the old and the new.

Anything you want to know about the public health we will try to tell you.

Any information you want about diseases of domestic animals we will help you to get.

God gave his creatures light and air
And water open to the skies;
Man locks him in a stifling lair
And wonders why his brother dies.

—Holmes.

PHYSIOLOGY AND HYGIENE IN THE PUBLIC SCHOOLS

The public school curriculum of Florida requires that physiology and hygiene be taught. Each county determines what text-book shall be used. But each teacher has to take examination for license to teach and among the subjects are physiology and hygiene. Now the State Board of Education determines what text-books the teachers' examination will be based upon.

The text-book used in Florida for the teachers is not all that could be desired—not the best even that the market affords. This is a defect in the system that should be corrected. The book that the teacher uses should be at least authoritative. Else the teacher's information will be defective and misleading. And if the examining boards are rigid in their marking, the teacher's grade will suffer from no fault of his own but from the authority by which he is guided.

I have in mind now a few statements made by the physiology in question. Speaking of malaria the author says: "It may be possible that this fever is caused by the vapors that arise from marshy places." Every one who is reasonably well posted on hygiene knows that this is a most glaring error. Speaking of yellow fever he says: "It has been shown that the mosquito is probably instrumental in transmitting yellow fever." What could be more uncertain! *Probably instrumental.* But this is not intended for a criticism on any particular text-book. If it were, few of them would escape, for most of the older books on physiology and hygiene intended for the public schools are imperfect. There are, however, some recent works that are to be commended. The authors have read the signs of the times; have seen the wave of public sanitation that is sweeping the world, and instead of resisting it, have thrown themselves headlong into it to swell it that much greater. Publishers have seen what was coming and have vied with each other in their efforts to help materialize it. At first they were a little reticent about breaking away from the traditions of the fathers, and felt their way very gingerly. One publisher reluctantly agreed to have a chapter on tuberculosis inserted, but insisted that it must be rewritten by the author of the physiology before it went in. But the State Board of Health of North Carolina stood firm and required that whatever physiology was used in the public schools of that State must have a special chapter on tuberculosis, prepared by the State Board of Health, and as above indicated, after it was rewritten it went in. This was in Lippincott's second book of physiology,

and constituted the thirteenth chapter. Now Lippincott was furnishing this book to Duval and possibly other counties in Florida, but it continued to furnish them without the thirteenth chapter. Understand now that publishers will take a very generous view of anything that is to be added or subtracted from a text-book and even make reprints of the addenda to go with the books already out. So that it is no longer a problem how to get what is needed, but the problem resolves itself into how to select a text-book.

If it were selecting a text-book on teaching, that should be left to a practical teacher; if it were selecting a text-book on book-keeping, it should be delegated to a book-keeper; if selecting a text-book on history, it should be done by a historian, and so on and so on, till we get to selecting a text-book on sanitation; then why should it not be selected by the State's sanitary authorities? Answer, ye, who can.

MILK

Milk is perhaps the most important single article of diet in the world. It is usually thought of as a liquid food, but that is wrong. It little more than gets into the stomach before it becomes a solid and is digested as a solid food.

It is very potent for good and evil. It has a wide range of both richness and purity. The butter fats may vary from one or two per cent to seven or eight. The amount of dirt may vary from zero or a few straggling hairs to a visible sediment of unmentionable filth in the bottom of the bottle. The bacteria may vary in number from less than ten thousand per cubic centimeter to countless millions. They may vary in kind from the lactic acid bacteria which causes milk to sour, to the tubercle bacilli, or even other disease-producing germs. Where the milk supply is of a high grade of purity, the death rate of children shows it. For twenty-one years prior to 1900, the death rate of children from one to five years old in New Jersey was about twenty-five for every 10,000 population. But about that time a rigid milk inspection service was introduced and since then the death rate among children one to five years old has been only fourteen for every 10,000 population. The State Board of Health of New Jersey commenting on this says:

"The continued low death rate among children under five years of age in New Jersey shows unmistakably that the careful supervision of the collecting, handling and distribution of milk has been the means of saving the lives of many infants."

A few towns in the State are looking especially toward their milk supply. DeLand led the way by having all her dairy cattle tested for tuberculosis. Since that time many improvements have been made in many directions looking toward improving the milk supply.

One of the dairies in Jacksonville will in a few weeks, it is confidently believed, be supplying certified milk. He has reached that degree of purity that some of it was recently taken to New York on the Clyde Line and was sweet when it arrived there. One of the dairies at DeFuniak Springs has requested the State Board of Health to send a veterinarian to test the herd and has expressed a desire to institute every improvement that looks toward the betterment of the milk output. Miami has a new milk ordinance. Ocala has had her milk looked after as well as Tampa. There is still much to be desired, but these movements indicate that everybody is looking toward milk improvement. And this is to be commended in the highest terms. The towns that soonest reach a milk supply that is like Caesar's wife, above suspicion, will be rewarded not only in the consciousness of duty well done, but they will see their sickness and death rate decrease and they will become centers for tourists who are making diligent inquiry about the milk supply of the places they intend to visit. It is true they inquire about the prevalence of malaria and yellow fever and snakes, but they also inquire most diligently about the milk.

The State Board of Health is always pleased to lend its assistance as far as possible in the matter of raising the grade of milk.

THE PREVENTION OF MALARIA

Malarial disease is so familiar to us in its milder forms that few, even of experienced practitioners, have an adequate conception of what its actual cost in human life and human health is in the aggregate in our country. Figures which may be assumed to be reliable, as quoted by Dr. Searle Harris in his article in this issue, give us a mortality, as he says, greater than that of any or all the epidemics of yellow fever in the last half century. Taking into account that mortality is a very poor index of the actual damage done by this disease, since Dr. Harris says that probably not one in five hundred of those affected dies, these figures are sufficiently formidable. It is the morbidity caused by malaria, however, that is the factor mainly to be considered, and the importance of this can hardly be overestimated. Without going into the usual calculations of the value of human life and health from a financial standpoint, there is sufficient evidence of

the evil to be found all over the world in deserted regions which were formerly centers of active and thriving populations. In spite of this, malaria is a preventable disease and this waste of human life and health can, to a very large extent at least, if not entirely, be avoided. Even in the tropics, where the conditions are most unfavorable, as in the Malay States and Panama, it has shown that it can be permanently stamped out. These facts show that the problem is not so difficult as it appears, and we have had sufficient object lessons of the ease with which it may be accomplished in some parts of the middle west where chills and fever, once very prevalent, have almost entirely disappeared, from the ordinary methods of opening up the country with cultivation and drainage. Dr. Harris' recommendations that malaria should be made a reportable disease and the patients isolated may be difficult to carry out in some communities, but they are not impracticable and with the proper education of the people the difficulty would probably soon disappear. This can be accomplished, as he says, by means of lectures and tracts, etc., and, still better, by the individual efforts of those who are already enlightened on the subject. The benefit of a national association for the study and prevention of malaria is well illustrated by the experience of Italy, in which country the mortality and morbidity have been very largely reduced. Malaria prevention may sometimes raise interstate questions, and the necessary measures cannot be always efficiently carried out by local legislation. Still, any community can protect itself against indigenous infection, unless very exceptional and extraordinary conditions exist. It is not ordinarily essential that the aid of the national government be invoked, but, in order to carry out the larger drainage enterprises that may be advisable, its help will be exceedingly useful if not absolutely necessary. —*The Journal of the American Medical Association, October* 9, 1909.

OUT-DOOR CLOSETS

JACKSONVILLE, FLA., July 15, 1909.

Miss _____,

_____.

DEAR MADAM: This is to acknowledge your favor of the 9th instant and to reply in part:

As to the best way of managing an out-door closet, there are two things to be kept in mind: (1) that flies are to be rigorously excluded, and (2) that the contents shall be so disposed of as not to become a menace to health.

Flies can be kept out by thoroughly screening. The rules adopted by the City Board of Health of Richmond, Va., on this point are as follows:

"The house shall be without openings or cracks through which flies may enter. It shall be provided with a tight self-closing door. It shall have an

opening or openings for light and ventilation, which opening or openings shall be screened for the exclusion of flies. The door of the house shall not be allowed to remain open at any time, unless there shall be a self-closing fly door in addition to the door required under the rule above."

It is a good arrangement to have the closet fitted with a door opening to the inside and a screen door opening to the outside. The ventilators can be easily screened with wire gauze. The weak point of the outdoor closet is usually the receptacle. I know of no better arrangement than to have a box made of zinc in the form of a drawer to be slided into place from the outside. (See cut of this kind in one of the forthcoming issues of HEALTH NOTES.)* It is far more conveniently managed than the pails and keeps that portion of the closet absolutely protected from flies.



As to disposition of contents, may say that it is permissible to use for fertilization of the larger crops, as corn, but under no circumstances should it be used to fertilize garden vegetables. It has been shown that the typhoid bacillus may live in garden soil for a long time. And this may result in typhoid from eating such vegetables as are taken raw.

It has been the custom for a long time in and around the suburbs of Havana, to fertilize little garden spots in this way, and Dr. Guiteras is of the opinion that much of the typhoid of that city results from the practice. But as before stated, it is permissible to use it for the fertilization of larger crops, but should be raked into the earth when distributed, both on account of flies and to prevent the unpleasant odor that would rise from it.

*The cut referred to is shown on this page.

Thanking you for writing, and assuring you that the Board is always glad to serve you, I am,

By direction of the State Health Officer,

Very truly yours,

HIRAM BYRD,

Assistant State Health Officer.

OSLER AND BOVINE TUBERCULOSIS

It has been said of William Osler that if a letter were addressed to the most eminent medical man in the world and bore no other address it would eventually reach him.

The seventh edition of his Principles and Practice of Medicine is just out and has been reviewed in the *British Medical Journal,* in which we find the following:

"The deliberations of the Congress on Tuberculosis held in Washington last year are made use of for the reader's benefit. Koch's position with reference to the statement made by him that the bacillus of bovine tuberculosis does not cause human tuberculosis and vice versa, has been found by our Royal Commission and continental writers to be untenable, for bovine and human tuberculosis are interchangeable."

EXTRACT FROM REPORT TO THE SURGEON-GENERAL

PUBLIC HEALTH AND MARINE HOSPITAL SERVICE
HAVANA, CUBA, SEPTEMBER 6th, 1909.

* * * Health conditions throughout Cuba are for the season of the year, remarkably good.

Mosquitoes are decreasing with the diminished rainfall and Stegomyiæ are encountered rarely in this city. All lodging houses of the cheaper class, whose patronage is drawn entirely from the non-immune labor element, are subject to periodical fumigations with sulphur and a fairly accurate supervision of their personnel is maintained.

Havana has now been free of yellow fever for twelve months. The quarantine against Mexican ports is exceptionally rigid. Passengers on arrival undergo a searching examination and those showing any suspicious symptoms are immediately isolated at Las Animas Hospital. Those who appear normal are confined in Triscornia Quarantine for six days after arrival. During the past week one case of typhoid and one of varicella were removed from the Steamer "Merida," four days out from Vera Cruz.

The district inspectors report the following transactions for the ten-day period ending August 31: 17,000 houses were inspected; 18,162 ditches, drains, swamps and pools were petrolized; 19,848 cans and bottles were removed to the dumping grounds; 5,860 lineal meters of ditching were opened up, and 2,475 square yards of public land cleared of vegetation. * * *

EXTRACT FROM PROCEEDINGS STATE BOARD OF HEALTH OF MICHIGAN, OCTOBER, 1909

"The Board————ruled that no person with open tuberculosis should be employed as a teacher in any of the schools of the State.

"The Board adopted a resolution instructing Secretary Shumway to prepare and issue a notice to public carriers and schools forbidding the use of the common drinking cup.

"A plan was approved by the Board for a conference with railroad officials of the State looking toward the abolishing of the common drinking cup and the installing of other improvements in the sanitary conditions of railway cars."

This is commended to the reading public of the State of Florida who are interested in public health measures.

RATS, MICE AND FLEAS

By Dr. L. A. Peek.

Dr. Peek has favored us with the following very interesting and instructive article on rats and mice. We rarely stop to think what these rodents cost us directly and indirectly. If we did, perhaps we would take a little more trouble upon ourselves to get rid of them or at least to hold them in check. This is one of the great economic problems of the world and will be heard from again:

"Rats and mice are of world-wide distribution. The varieties are very numerous. Several kinds have been distributed by vessels and railways so that they are found everywhere. Then each country has one or more kinds of local distribution.

"In Florida we have *Mus Norwegicus, Mus rattus, Mus Alexandrinus* and *Mus musculus.* These we have in common with nearly the whole world. They are the commonest rats and mice found in houses, barns, stores, wharves, stables, sewers, etc., where they feed principally on food stored for human use and for the use of domestic animals. We also have at least twelve varieties of native wild rats and mice which live commonly in the woods. Their principal food is fruits, roots and vegetables. They frequently destroy quantities of fruits and vegetables for our Florida fruit and truck growers.

"The annual loss to the people caused by rats and mice is enormous. Farmers are the greatest sufferers, though no Floridian escapes his toll to these omniverous rodents. In another way, rats and mice are of tremendous importance to the human race. The Bubonic plague fatal to from 60 to 90 per cent of its victims, is a disease attacking rats,

mice and other rodents as well as man. This disease is now distributed over many parts of the earth. North America and Europe are still comparatively free from its ravages, doubtless, because of the more stringent maritime quarantine regulations of these parts of the earth. This disease is caused by a germ, the *Bacillus Pestis* which is carried from the sick to the well by fleas.

"Nearly all rats and mice have fleas on them. Most varieties of fleas have one particular host which they prefer. So most rat fleas by preference, bite rats only, most squirrel fleas bite squirrels only and so forth. However, there are several varieties of fleas which bite both rats and man with equal appetite. We have at least two kinds of fleas in Florida which have been found here on rats and on man; *Ctenopsyllus musculi* and *Pulex irritans.* These fleas are ready to scatter the plague for us in Florida. Should the plague at any time gain a foothold in Florida, it would be very difficult to eradicate it. Thousands of our citizens would die, years would elapse, and hundreds of thousands of dollars would be spent in the effort to kill all infected rats.

"Let every Floridian start now to fight rats. Build your residences and barns, stables and stores so that they will be as nearly rat-proof as possible. Keep all food as nearly as possible where the rats cannot reach it. Kill the rats with poison and with traps.

"Barns and storehouses for grain can be lined or covered with sheet iron and thereby rendered rat-proof, if the doors are carefully watched whenever opened. The saving in a single year will, in most cases, pay for rat-proofing these structures.

"Rats need water as well as food. Appropriate measures should be taken whenever possible to keep rats away from a supply of water.

"Against the wood rats and mice which destroy so much fruit of every kind, and so many vegetables, we shall have to rely on traps and poison. It will take every variety of trap and every kind of poison in a constant warfare against them to keep these pests in check.

"The immediate pecuniary benefit resulting from a general warfare against rats and mice will well repay our people for the undertaking.

"The remote benefit as guarding against a possible epidemic of plague is incalculable."

PUBLIC SCHOOLS AND PUBLIC HEALTH

By Charles Gilmore Kerley, M. D., New York.

(*Extracts. From the Virginia Medical Semi-Monthly, September* 10 *and* 24, 1909.)

"No one will question but that the good health of the community is its greatest asset, and you will further agree that this health is dependant upon the ability of the community to take care of itself and that the most necessary knowledge that a people may possess is the knowledge as to how they may maintain the highest degree of vigor and vitality. In the short school life which terminates in the great majority of the 18,000,000 school children in the United States from the twelfth to the fourteenth years, only studies of utility should be imposed. One should, in arranging the curriculum of these children, 'determine the relative value of knowledge.' * * *

"The future health of the child and the public health, consequently may be influenced through the school in two distinct ways—through the *immediate* and *remote* effects, and which exert a lifelong influence. The *immediate effects* are determined by air space, lighting, heating, fire-protection and fire-escapes, seating and water supply and medical inspection. There is but one State, Massachusetts, which has a law providing for medical inspection in all the schools. Sixteen States provide for fire-escapes and fire-protection. Only Massachusetts and Connecticut have established a standard of ventilation and require its enforcement. Kentucky alone provides standards for lighting, floor spaces, air spaces, seating and water supply. Only one-third of the States compel vaccination. In Indiana there is no medical inspection. The Secretary of the State Board of Health of Iowa has recently published an article against medical inspection.

"It will thus be observed that the country as a whole is leaving much undone in handling the school problem.

"The necessity for general medical inspection is obvious when we learn that Boston reports fifty-four per cent defectives, New York sixty per cent, and Sioux City eight per cent. The range in eyesight is about the same. Columbus, O., reports about twenty-five per cent, New York about thirty per cent, while Wellesley, Mass., reports sixty-three per cent.

"If the figures given as related to defectives are true, the State is sustaining much financial loss, and is greatly handicapped in attempting to educate children who are in such a physical condition that they will not profit by the instruction offered. Money and time are wasted.

The expense to the State of maintaining a child in school one day is twenty-four cents.

"In our larger cities the Americanizing, the making of good citizens, of the large alien children population is dependant almost entirely upon the public school system.

"A large fraction of the children that are in our city schools either themselves come from non-English-speaking countries or are children of those who come from those countries. That a large proportion of the population of our great cities is made up of persons from foreign parentage is not generally realized. The facts as told in the late census in regard to some of our leading cities are as follows:

"POPULATION OF NATIVE AND FOREIGN PARENTAGE IN 1900.

City.	*Per cent Foreign.*
Boston	77.2
Chicago	77.4
Detroit	77.4
Jersey City	70.5
Milwaukee	82.7
Newark	82.8
New York	76.9
St. Paul	72.6
San Francisco	82.1

"Briefly, the school child should be properly housed and taught those things which will be useful to him in after life. Everyone who has to do with children must be made to understand that the very best we can do for a child is to make him physically strong and teach him how to remain so.

"Such instruction is now furnished most inadequately. I judge from a knowledge of the unfinished product, the uneducated graduate, the most useful knowledge that the boy or girl who leaves school at the fourteenth year can possess, in addition to reading, writing, mathematics, history and geography, is knowledge as to how to take care of and protect his or her own body. Who among you, not professional educators, today know anything of your early studies excepting reading, writing, arithmetic and geography? We all can read, some can write legibly, and we all are short in mathematics and geography.

"We find in the curriculum of the elementary and high school, such studies as music, Greek, Spanish, History, Zoology, commercial law, etc. Our only criticism against such studies is that they are non-essentials, and crowd out other instruction which comprehends the

essential. Such studies are time wasted on the great majority. For the girl who has to care for her several children and do her own house work, as thousands have done and will do, modern languages, Spanish, history and zoology, play a very unimportant part. Her ignorance of physiology, hygiene, bacteriology and the elementary principles of living, plays a tremendous part in the well-being of herself and her family, and in the mortality statistics of our own country. Boys from twelve to sixteen years of age are sent out to meet the world's problems without any knowledge of their nature or solution, with resulting disease and ill health as an invariable accompaniment of ignorance. Industrial education and health education are what these millions of boys and girls need most and of which they get the least.

"All are now taught alike by the antiquated method as though all were in preparation for a literary or professional career. Sooner or later children will be taught in assorted classes. May it be soon!

* * * "The most important subjects that may be taught a student of either sex from the twelfth to the fifteenth year, regardless of social station, are physiology, hygiene, bacteriology and food values.

"*Physiology*—That the function of the various portions of the body be known. They should learn of the digestion, the circulatory and procreative systems. They should be taught the function of every organ in the body, so that abuse might be prevented.

"*Hygiene*—Sufficient to cover the care of the body. They should know the necessity for bathing, the value of fresh air and exercise and how to utilize fresh air by proper breathing.

"*Bacteriology*—Sufficient to appreciate that germs are germs and not fads of medical men, and that the causes of illness and death in the great majority of the human race are microbic in nature.

"*Physiology and Bacteriology*—If practically taught, would make the cause and nature of disease readily comprehended by any child after the twelfth year, and would, in a few years, wipe from the face of the earth the various fads, cults, so-called sciences, spiritual healings and other manifestations of dense ignorance of the supposedly intelligent.

"We can never teach people protection against infection and disease when they possess no realizing sense of the nature of infection or disease.

* * * "The maintenance of health, the development of a vigorous resistence, which means the avoidance of disease, all of which depends largely upon a knowledge of food, of food values and the care and preparation of foods—this will never be learned in the home, because the home does not know. The child should be taught sufficiently to realize that we do not eat simply to supply the appetite, but that he is to eat for the business purpose of supplying means for the growth and development of the body. An advanced step in this direction has been taken by Dean Russell, of the Teachers' College, who I believe is a pioneer in inaugurating systematic teaching along these lines. You may think that the public is wise about these things now, but it is not. Witness the prosperity of the boxed breakfast food business and the enormous consumption of candy, coffee and tea.

"The curriculum should and does include instruction as to the nature and danger of stimulant drugs and narcotics. This is a legal requirement in most States. In the school, however, owing to the multitude of other studies which are considered more important, it is pushed aside and as a rule, little attention is paid to it.

"Boys and girls of suitable age should be taught in ways deemed best by those skilled in teaching of the perils and dangers that await them. They should be educated in social prophylaxis. The statement that the medical man hears time and time again: 'I did not know that such things were'—means defective education in vital living principles.

"Morrow, in the *Maryland Medical Journal,* of September, 1907, states that competent European observers agree that seventy-five per cent of the adult population have, or have had gonorrhea, and that from ten to eighteen per cent contract syphilis. He believes it conservative to state that the morbidity from both these infections in this country would be present in sixty per cent of the male population. Gynecologists tell us that from sixty to eighty per cent (different writers varying somewhat), of the acute inflammatory pelvic disorders in women are due to gonorrhea, innocently acquired, and that thirty-five per cent of all operative pelvic conditions in women have the gonococcus as the etiological factor. Thirty per cent of the cases of blindness are attributed to the gonococcus, the infection being acquired at birth. It is estimated that fifty per cent of the cases of gonorrhea in men are contracted before the twentieth year, and in practically all instances the patient possesses little or no knowledge as to the gravity to himself or the far-reaching and terrible consequences to others.

"It is not claimed that proper instruction along the above lines would remedy all the evils referred to, but for right living, a knowledge as to what constitutes it is required, and when the impress is made in the right way upon the impressionable mind of youth, much good will result.

"They will never be told in the home, because the home does not know or is muzzled by lack of courage.

* * * "A child badly fed, poorly nourished and stimulated by tea or coffee with the resulting undeveloped body, is rarely an average student. His powers of perception, concentration and retention are all defective. A reasonable normal body is necessary for a good average mind. The infant's weight increases about twenty times before the adult period is reached, and its body is built up by the food it assimilates. It requires no great process of reasoning to appreciate that the child which is fed on suitable food will become a more vigorous and better formed adult than one which is fed—beginning at birth and continuing during the entire development period—on food of indifferent tissue-building qualities.

"The co-relation of a sound mind in a sound body is well demonstrated by Professor Sargent, of Harvard University, in the *Popular Science Monthly,* of September. He refers to Porter, who examined 30,000 public school children in St. Louis, Mo., and found, among pupils of the same age, ranging from six to eighteen years, that the average height and weight of those in the higher grades were greater than those in the lower grades. In other words, he found that the pupils who were mentally the best equipped were physically the best developed.

"Porter's conclusions have since been confirmed by Hastings, in Omaha, Byer in Cambridge, Christopher in Chicago, Roberts in London, Burgerstein in Vienna and Lehrazig in St. Petersburg.

"Sargent claims that this intimate relationship between body and mind is not limited to growing youths, but is true of all classes of individuals. He instances, the Fellows of the Royal Society of England and the English Professional Class, who may be said to represent the brain power of the British Empire, which average, respectively, five feet, nine and three-fourths inches, and five feet, nine and one-fourth inches in height, and 160 pounds in weight; while lunatics, criminals, idiots and imbeciles, who represent the other end of the intellectual scale, average in height from five feet, seven inches, to five feet, four and one-half inches, and range in weight from 123 to 146 pounds—a difference of 4.9 inches in average height and 37 pounds in average weight, between the highest and lowest class of English Society, as represented by the members of the Royal Society and idiots and imbeciles.

"Compared with the general population, lunatics, according to Roberts, show a deficiency in stature of 1.96 inches, of weight 10.3

pounds, and criminals 2 inches and 17.8 pounds, indicating a deficiency of physical as well as mental development in both these unfortunate classes of society.

"In observations on several hundreds of students at Harvard University, Sargent verified the conclusion of Porter, Christopher and others, in that the honor men were from one to two inches taller and weighed from four to eight pounds more than the average student. In conclusion, Sargent states that if there is any truth in statistics, achievements are to be attained by men as a class who have the best bodies, holding the best brains.

"The immediate effects, as mentioned above, are determined by air space, lighting, heating, fire-protection and fire-escapes, seating and water supply and medical inspection.

* * * "The remote effects of a properly adjusted school life upon the child may determine in large degrees his future for good or for evil. Whether he is an addition or a tax to the left or right of the decimal point, whether he gives and adds his quota to the nation's strength, or whether he becomes an element of weakness, depends upon the influence brought to bear upon him during the ten years of greatest receptivity between the sixth and the sixteenth year—the years that comprise the school life.

* * * "The report that compulsory education has been a benefit morally, but not physically—long hours of confinement without breaks, in poorly-ventilated, over-crowded schoolrooms, without food suited to nourish their bodies, unwisely clothed, plodding for years over studies that are of no practical use—applies as well to this country. The principle of exercises in the schools was a detriment in that delicate and robust were treated alike.

* * * "Burbank has rightly stated that heredity is the result of a succession of environments, and that a bad heredity may be overcome by the right environment. Every child during the ten crucial years, from the sixth to the sixteenth year, has three environments—the environment of home; the environment of school, and the environment of out-of-door play and amusements.

"Every child who is not a confirmed invalid, physical and mental, must do three things: He must grow, and he must acquire knowledge and he must find amusement. How he grows and the knowledge that he acquires depends entirely upon his elders who supply him the environment.

* * * "We have public service commissions, railroad commissions and many other commissions appointed to serve for some definite public purpose.

"Every child is a ward of the State and when he is neglected by his parents or guardians as thousands are, does it not suggest that there is a most useful field for a child's protection commission, supplied with assistants whose duty it shall be to see that every child has a square deal, to see to it that every child gets what he has a right to demand?

"So far as governmental intervention is concerned, but little is to be expected at the present time. By process of evolution we are still too near our original ancestors for any broad human sympathy.

"What we need, what we must teach, and what will eventually come, is 'sufficient governmental paternalism to realize that it is the children of today who will be the American nation of tomorrow and that they excel in importance every other national consideration.'

"In conclusion I would have you remember this, that that portion of the rising generations who will do the nation's work, fight the nation's battles, do the nation's thinking, are getting today what common sense tells any one a child should have.

"They are getting food suitable to the development of their bodies; they have the benefit of fresh air and cleanliness, proper amusement and a life devoid of care. They are being suitably taught in secular and religious ways.

"Those who are treated otherwise are to furnish a large portion of the future dependants and criminals and the otherwise useless and dangerous members of society."

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FLORIDA

Health Notes

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Hon. E. M. Hendry, President, Tampa, Fla.
Hon. H. L. Simpson, M. D., Pensacola, Fla.
Hon. John G. Christopher, Jacksonville, Fla.

EDITED BY

Joseph Y. Porter, M. D., Secretary and State Health Officer.
Hiram Byrd, M. D., Assistant State Health Officer.
Offices:
Jacksonville, Dyal-Upchurch Building.
Key West, Room 10, Monroe County Court House.
Laboratory: Jacksonville, L'Engle Building.

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When giving change of address, give both the old and the new.

Anything you want to know about the public health we will try to tell you.

Any information you want about diseases of domestic animals we will help you to get.

"The highest aim of medicine is to prevent disease."

—Holmes.

CIRCULAR LETTER (TO THE PHYSICIANS OF FLORIDA.)

JACKSONVILLE, FLA., November, 1909.

MY DEAR DOCTOR:

You are probably not unaware, if you have been a constant reader of the HEALTH NOTES, of the persistent educational crusade which the State Board of Health has for years past been waging against the hookworm, nor unmindful of the earnestness of the appeals and pleadings of the Board that the children of the State, especially those living in the "sandy districts," should be given a chance to live; an opportunity to be physically sound and mentally active, so that they might acquire their full rights of citizenship, in managing and directing the affairs of home and State.

Quite recently—within the past two months—the State Board of Health has gone a step farther in this movement of eradicating the hookworm parasite. One of the assistants of the State Health Officer has been placed in the "field" in the southern part of the State to make a house to house canvass and to offer treatment gratuitously to the parents for their children where a microscopic examination has determined that the child or children are infested with this parasite.

As soon as possible and practicable with other obligations which the State Board of Health owes to the citizenship of the State, other assistants of the State Health Officer will be assigned for this campaign of education and extermination of the hookworm, but as the medical profession of the State as individuals can, if they will so interest themselves, do most effective work in this humanitarian problem, the State Board of Health seeks to increase that interest by offering to pay for the treatment of cases where the children or persons are indigent or unable to provide the needful treatment.

It is proposed that each case treated to a successful ending shall be paid for at the rate of *three dollars,* which will include furnishing of thymol, *provided* that the history of the case is furnished the office of the State Board of Health on special blanks, a copy of which is herewith attached, after a diagnosis of existence of the parasite has been determined by either the laboratory of the State Board of Health or by one of the assistants of the State Health Officer on "field service," or by a physician skilled in the use of the microscope.

Those physicians with whom the State Health Officer has discussed this feature of treatment, and who have had extended experience in treatment of hookworm trouble, have expressed their opinion that

the amount offered, viz., three dollars, is a fair and equitable remuneration for the service given, especially if blanks are provided by the State Board of Health and examinations of stools are made by the laboratory of the State Board of Health.

Now, Doctor, are you willing to co-operate with the State Board of Health in this humanitarian work of liberating thousands of people in this great State of Florida from a parasite which is sapping the life energy from both body and mind?

The work that you do you shall be paid for on the basis of the proposition submitted elsewhere in this letter, and what is still better, you will be credited with your cases which are cured in the publications of the Board to the public of Florida and the United States.

Let me know if this meets with your approval and acceptance and if you are willing to enter into this campaign.

Very truly,

(Signed) JOSEPH Y. PORTER,
State Health Officer.

PELLAGRA.

(Pronounced pel-lá-gra.)

Dr. Joseph Y. Porter, State Health Officer, Key West, Fla.

DEAR DOCTOR—I attended the National Conference on Pellagra, held in Columbia, S. C., November 3-4, 1909, as per detail, and have the honor to make the following report, to you, and through you to the President of the State Board of Health:

History of the Conference—In 1908 pellagra had recently attracted attention in this country, particularly in South Carolina, and Dr. Babcock, Superintendent of the State Insane Asylum, took advantage of the State Fair held in Columbia to invite the physicians of his State and of the neighboring States to meet in Columbia and have a little conference upon the subject. This they did with profit. It was then determined to hold another conference this year during State Fair week, and preparations were accordingly made for it, Drs. Babcock and Williams taking the initiative. It was soon manifest that interest in the subject was waxing and that the conference was going to be well attended; in fact, it outgrew all their expectations and before they were aware it had taken upon itself the nature of an international conference. In one respect it was unfortunate to have a conference of this magnitude during carnival week, for it made hotel accommodations difficult to secure. But Dr. Babcock was equal

to the emergency and as soon as he saw this complication arising, he arranged for all delegates that could not get hotel accommodations to sleep in a large new building that had never been occupied—one of the asylum buildings.

Personnel—This was the first national conference on pellagra in the history of the world. Nearly all nations where the disease exists were represented, some by delegates and some by papers.

Dr. Sandwith, of London, sent a paper. A paper was read from Yucatan, one from Barbadoes, one from Jamaica, and one from Egypt. In America, South Carolina was best represented of course, but all the Southern States and many of the Northern States had delegates there as well as the Marine Hospital Service, the U. S. Army, the District of Columbia, and the Agricultural Department. Insane asylums, State boards of health, city boards of health, alienists, and dermatologists were represented. In short there were more than four hundred persons in attendance, and all so earnest that the attractions of gala week were not sufficient to draw them aside from a single session.

Results.—The conference emphasized the importance of the disease; pointed out that it has probably existed in America for a great many years, and that only here and there a case has been recognized; that it is pretty wide-spread already and is probably on the increase; that the symptoms are pretty well defined and with a reasonable degree of familiarity with it diagnosis becomes relatively easy; that the mortality is pretty high; that treatment is more or less unsatisfactory; that transfusion from a person who has recovered from the disease, or indeed from a healthy donor, offers a rational and hopeful method of treatment; that the cause of the disease is unknown, as also the method of prevention; and that corn as an etiological factor is neither condemned nor exonerated.

History.—Quoting from Dr. C. H. Lavinder, who has prepared for the Marine Hospital Service an excellent little brochure on pellagra, the history of the disease is related as follows:

"Pellagra has been known in Spain since 1735, and was first described by G. Casal, of Oviedo, who, observing the disease among the Asturian peasants and finding nothing on the subject in medical literature, called it *mal de la rosa* (from its characteristic erythema). He regarded it as a kind of leprosy. Later it was observed and described under a variety of names in Spanish literature.

"It seems to have appeared in Italy about 1750, but was first described there in 1771, and Frapolli, of Milan, first applied the

name of pellagra (Italian, *pelle*-skin, and *agra*-rough) to the disease. Here, as in Spain, the disease was described under several different names. By 1784 it seems to have become of such importance that a hospital was established under royal authority for a study of its nature, and the elder Strambio was placed in charge. About 1810



Acute Pellagra showing Eruption on hands, arm and face.
(Courtesy of Dr. Babcock)

Marzari first called attention to the relation between maize and pellagra, and in 1844 Balardini first suggested the theory that the disease might be due to spoiled maize—that is, maize which had undergone change by reason of the growth of fungi on the grain. From the greenish color produced by the parasites, Balardini's view was called

INTENTIONAL SECOND EXPOSURE

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the 'verdet' theory. This theory has been developed and most ably defended by Lombroso.

"In France early in the nineteenth century pellagra was first observed by the elder Hameau in the vicinity of Teste (whence the name *maladie de la Teste*). In 1845 Theophile Roussel made a notable contribution to the study of the disease, and followed this later by others. He did much to clear up existing confusion, established the identity of pellagra with *mal de la rosa,* distinguished clearly pseudo-pellagra, and strongly advocated the 'verdet' theory.

"The disease appeared in Roumania early in the nineteenth century, and a good deal of valuable literature has followed. The work of Babes should be mentioned. Sandwith has reported the disease from Egypt, and many other observers have noted it in various parts of the world, usually in sporadic form."

The same authority gives the distribution as follows:

"At present pellagra is most prevalent in northern and central Italy and in Roumania. It is also found in parts of France, but of recent years, since other cereals have replaced maize, it has much decreased. It is still prevalent in parts of Spain, also endemic in Corfu, and occurs rather extensively in Upper Egypt. It is likewise often reported from Asia Minor, Austria, Servia, Bulgaria, and some other parts of Southern Europe, as well as occasionally from India, Africa, Barbados, Mexico, South America, and lately the Southern United States.

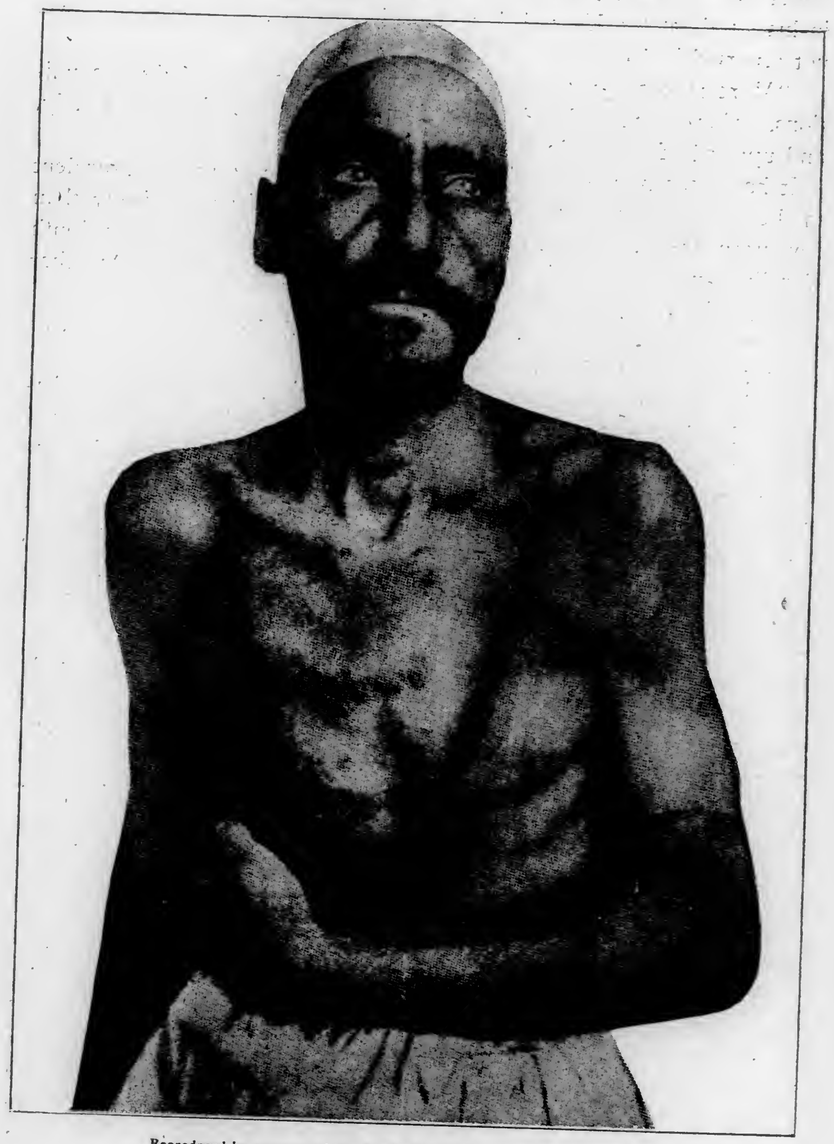
"The disease has been, and still is, a veritable scourge to certain parts of Europe. It seems to have followed close upon the introduction of maize culture from America, first in Spain in 1700, and later in other parts of Europe. The original homes of maize (America and Asia) have, however, escaped, probably by reason of climates better adapted to maize culture.

"The pellagra zone is but a small one when compared with the area over which maize is cultivated, yet pellagra does not occur except where maize is grown and extensively used as food by the poorer classes.

"Authors have given as geographical limits of endemic pellagra 42 to 46 degrees north latitude, 11 degrees west and 26 degrees east longitude of Paris, but these limits would have to be extended to include Egypt and Corfu.

"Without quoting full data, some idea of the extent of the disease may be gained from the figures which follow: Triller states that there are (1906) 30,000 pellagrins in Roumania; that in certain parts of

Italy as much as 30 per cent. to 50 per cent. of the population have the disease and that in 1899 there were nearly 73,000 sick with the disease in all Italy, this being upward of 10 per 1,000 of the rural population. Tuczek states (1893) that in Spain 2 per cent. of the



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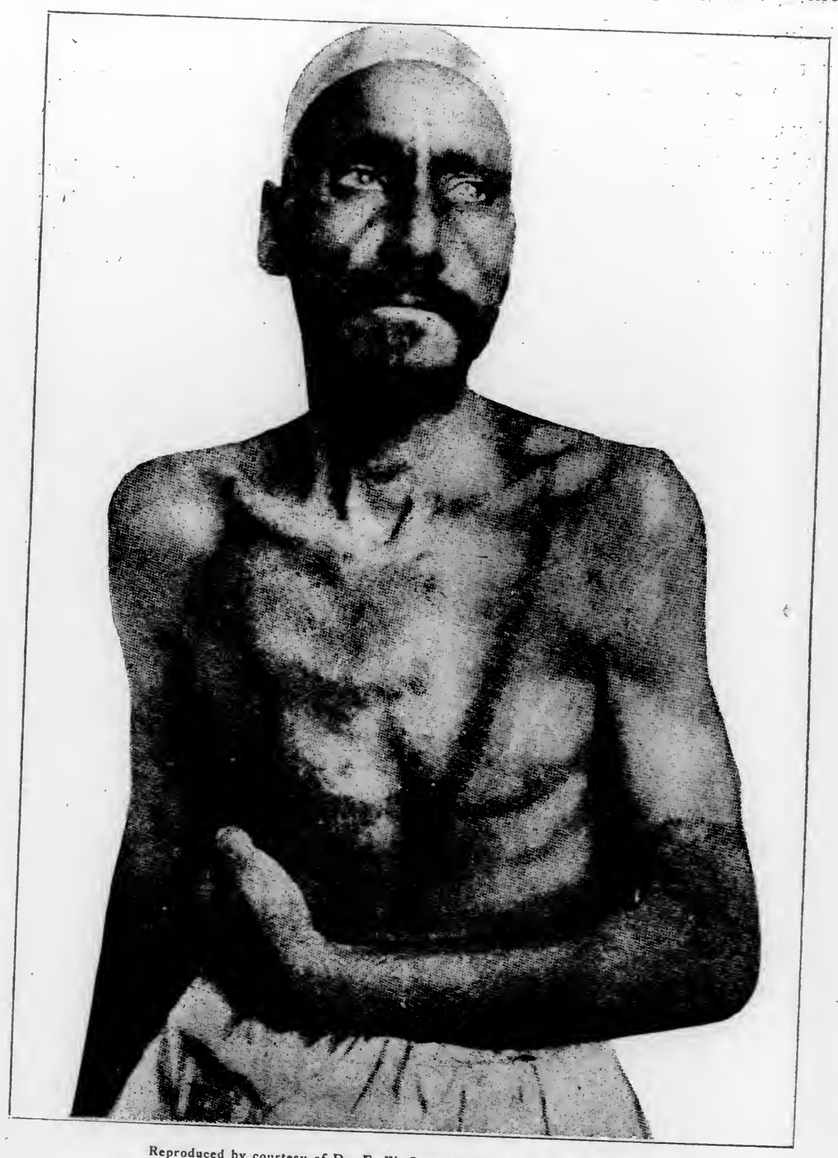
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rural population are affected; that in 1884 there were 10,000 pellagrins in Italian hospitals and insane asylums. He also says that about 10 per cent. of the pellagrins in Italy are mentally affected. Sandwith states that he has seen over 500 cases in the five years from 1893-1898 in his wards at the Kasr el Ainy Hospital at Cairo. The disease was not reported in Egypt till 1893.

"More recent figures would show no amelioration of these conditions. There were said to be in 1907 about 100,000 pellagrins in Italy, and upward of 50,000 in Roumania."

It has recently come to light that pellagra is more or less prevalent in the United States, cases having been reported from no fewer than seventeen States, in some of which it is quite prevalent, notably South Carolina and Illinois. It may be that it is just as prevalent in other States, only it has not come to light as yet.

Some twenty-five cases have been reported from this State, two having been reported since the conference.

Etiology.—Many theories have been advanced to explain the existence of pellagra, but none of them as yet offered can be accepted without profuse apology, such as we used to have to make for the behavior of yellow fever when we thought it was transmitted by fomites. The "corn-bread" theory has more adherents, perhaps, than any other. This theory holds that ripe, healthy corn does not produce disease. But that corn is frequently cut before it is ripe, shocked in the field, then shelled and marketed while it is yet green, and while it contains a great deal of moisture. Wheat and oats, and rye and barley, for example, are rarely marketed while they contain more than 10 or 12 per cent of moisture, while on the great Western and Northern plantations, corn is frequently marketed containing 30 to 35 per cent. of moisture. The custom is to market the corn by weight, and of course the more moisture it contains, the heavier it is. It is now shipped to the markets of the world in bulk. When shipped by boat it is usually put in the hold as ballast, and here it gives off moisture, and soon heats, and conditions are created where molds grow to best advantage. It is these molds or fungi that are charged with causing pellagra. The argument is that in Italy, where the disease prevails to such an extent, it is this cheapest grade of corn that is mostly used for food; that in the United States in earlier times pellagra did not prevail to any extent; that since this "shocking" method of harvesting the corn has come into vogue, pellagra has been on the increase, and that the disease is most prevalent among the poorer people who live upon the cheapest articles of food available. Further arguments have been

adduced from attempts to reproduce the disease in lower animals and in man, by feeding them upon diseased corn, and upon extracts from different fungi that grow upon corn. These attempts have produced certain symptoms in some cases, which enthusiastic investigators have stretched sufficiently to make them analogous to pellagra, but other investigators have failed to see the analogy.

The auto-intoxication theory is not so widely held. It supposes that an almost exclusively corn diet eventually produces such changes in the intestinal flora as to cause them to elaborate a poisonous substance. To explain that more fully, it is well known that organisms are influenced by the medium in which they are grown. The diphtheria bacillus can be grown under such conditions that it gradually loses its disease-producing power. Then it can be grown under conditions that will exalt its disease-producing power. Even in health there are a great many bacteria in the intestine. These are grouped together as the "intestinal flora." Now this auto-intoxication theory supposes that a diet of corn makes a culture medium in which the disease-producing power of some of these otherwise harmless organisms is so exalted as to liberate a poison which produces the disease we know as pellagra. It is repeatedly asserted that pellagrins have the symptoms aggravated by a corn diet, even healthy corn.

By others it is held that the disease is an intestinal mycosis, the organism, whatever it is, being eaten with the corn and becoming domiciled in the intestine set up the disease.

By some it is regarded as of bacterial origin and extensive searches have been made for it in the blood, but the results have been uniformly negative.

It is held by some that pellagra is not a distinct disease, but a combination of symptoms sometimes observed in alcoholics and in persons suffering from other forms of cachexia.

All of which goes to show that the cause is not yet understood.

Symptomatology.—In a general way it may be said that pellagra presents three symptoms, namely: gastro-intestinal disturbance, eruption, and nervous symptoms. It is usually of long duration, lasting frequently several years, and there is a tendency to seasonal exacerbation, it being more pronounced in the summer than in the winter.

Again quoting from Lavinder:

"The symptoms are divided by most authors into three periods or stages. Many other divisions have been suggested. None seem entirely satisfactory. The division into three stages, while artificial, is convenient and is generally adopted. Such a division has no reference

to the length of time the malady has existed, but is based largely upon the intensity of existing symptoms. A patient may have suffered from pellagra for many years and still remain in the first stages of the disease; whereas, another in a much briefer period, may advance to the third stage. The disease is essentially chronic, although an acute (or florid) type is usually mentioned by writers on pellagra. Small space seems to be devoted to any description of acute types, however, and one is left to infer that the acute disease does not differ in symptomatology from the chronic, but that it is simply far more rapid in its evolution.

FIRST STAGE.

"Prodromal symptoms are said not infrequently to be present, but since the disease occurs largely in the peasant class, who are inured to the hardships of life and pay small attention to minor ills, this stage of the disease is not often observed. The prodromes are stated to be lassitude, vertigo, headache, general malaise, and perhaps mild digestive disturbances.

"Pellagra, as stated, manifests itself in early springtime, as a rule. There is a sensation of a heat in the mouth and stomach, taste is altered, appetite usually lost, and often ptyalism is present. The tongue is coated, and an examination of the mouth often shows redness of the mucous membrane, with vesiculation, or even superficial ulceration. Dyspeptic symptoms, with flatulency, are noted, and sometimes abdominal pain (usually epigastric); occasional vomiting may occur, especially in alcoholics diarrhea is often present—at times constipation—and the diarrhea, as well as the vomiting, may in some cases be of a spasmodic type; sometimes it is dysenteric in character, muco-sanguinolent, with colic and tenesmus.

"In a short time the characteristic erythema appears, selecting nearly always the uncovered parts of the body, and being symmetrical in its distribution. Its appearance is usually accompanied by a sensation of heat and swelling, with itching, in the affected parts.

"Muscular weakness, especially of the lower extremities, is usually evident early, and patients tire very easily.

"The temperature is usually normal, though there may be a slight evening rise. If there is much fever, complications should be sought for. Pellagra is described as a feverless disease. The pulse may be accelerated, though at times slow. Functional heart murmurs may occur, but should be sought later.

"Vertigo is often present and very annoying; headache, usually occipital, is frequent, and often severe; rebellious insomnia occurs; various neuralgias are not seldom in evidence, and especial stress is

laid by some on spinal neuralgias, with cramp-like pains extending to the extremities. The knee jerks at this stage may be exaggerated. Intelligence, even at this early period, is often affected, and there is mild mental weakness with depression of spirits. Pellagrous children wear a serious face and appear old.

"Ocular phenomena are sometimes present, inequality of pupils occasionally, dilatation often. Diplopia and amblyopia may occur. Cataracts are in some sections frequent, both in adults and children. Inflammatory and atrophic alterations are rarely observed.

"The blood changes, beyond a frequent, mild, secondary anemia, are unimportant.

"The urine often shows no important changes. Albuminuria is not very rare, and when it occurs there is generally an associated nephritis. This nephritis usually occurs, however, toward the end of the disease. The diazo reaction is not seldom met with.

SECOND STAGE.

"While erythema, digestive, and some nervous disturbances characterize the first stage, the second is marked by an aggravation of all of these symptoms and the appearance of new and marked evidences of involvement of the nervous system which now dominate the scene.

"The anemia increases, loss of weight is apparent, greater physical weakness appears, the skin of the erythematous patches becomes thickened and covered with a hard, cracked, pigmented epidermis, sometimes of a yellowish color.

"The stomatitis is aggravated, ulcerations are more frequent and, if not before, the tongue becomes now smooth and denuded of epithelium—the 'bald tongue.'

"The diarrhea grows more persistent, sometimes sanguinolent, at other times, and more often, it is serious. This serious diarrhea is not seldom painless and very persistent. If continued, it leads to the third stage of cachexia.

"The nervous phenomena are much exaggerated, and the great characteristics of this stage are the severe cerebro-spinal disturbances.

"Vertigo becomes more grave and prominent. Headache occurs with a sensation of weight, and insomnia; neuralgias are more frequent and severe; physical manifestations are seldom lacking and have usually the character of melancholia; in light cases there may be simply a mental feebleness, slow cerebration, with mild irritable depression, and aversion to any activity. This may develop into stupor. In severe cases there exists melancholia with anxiety, delusions of persecution, and disturbed ideas on religious matters. Refusal of

food and suicidal tendencies are common. Maniacal attacks with homicidal tendencies are less frequent. Melancholia may end in dementia. Defects of consciousness occur and delirium of a melancholic character. The circular type of insanity as well as paranoia are said at times to be observed.

"Muscular feebleness is marked and partial paralysis may occur, or even paraplegia and hemiplegia have been described. States resembling tetany may be seen sometimes, with paroxysmal-like, painful, tonic contractions in the lower extremities; and there may occur in those cases contractures of the upper and lower extremities in the half flexed position.

"The gait is usually paralytic, occasionally paralytic-spastic; never, it seems, ataxic.

"Tremor of the upper extremities, head, and tongue are recorded in many cases.

"The electric muscular irritability seems to show no constant deviation from the normal.

"Epileptiform seizures may occur, but definite attacks with loss of consciousness are very rare. More frequently it resembles cortical epilepsy, cramps in single limbs, short pauses in consciousness, and vertiginous spells.

"The skin sensibility seems to be irregular and of not great importance. Various paresthesias are frequently present.

"The ocular phenomena already described may more likely occur in this stage.

"The skin reflexes are as a rule normal. The tendon reflexes usually show deviation from the normal, but are often irregular. In some cases they are normal, in most increased, sometimes weakened or lacking altogether. Differences in the upper and lower extremities and in the two sides are recorded.

"Vaso-motor and trophic disturbances, besides the erythema, are often noted in the skin, such as general paleness, cutis anserina, cold sensations, and the like. Edema also occurs, and capillary injections about the face.

THIRD STAGE.

"This is really the terminal stage and is chiefly characterized by cachexia. The symptoms already described do not give place to new ones, but, on the contrary, they are present and aggravated. The cachexia now, however, stands boldly in the foreground, with dementia, paralysis, and other cerebro-spinal phenomena still prominent in the picture.

"There is an increasing marasmus, with marked anemia atrophy of subcutaneous fat and musculature, and a lack of resistance against intercurrent diseases. In addition there are great muscular feebleness, perhaps paralysis, including the bladder, and an uncontrollable, painless serous diarrhea. Death follows, with the signs of heart weakness and its consequences, edema, and effusions; or some intercurrent disease, such as acute tuberculosis of lungs, which is common at this period, or septicemia following decubitus, may close the scene.

TYPHOID PELLAGRA.

"At this stage not infrequently the fatal termination may take place in what is called typhoid pellagra (typhus pellagrosus).

"It is to be understood that this is not true typhoid, although this may at times be a complication of pellagra. Eberth's bacillus is not present and the morbid lesions show nothing characteristic. It should also be noted that nearly all authors seem to agree that this is not acute pellagra, and never occurs except at the termination of chronic cases.

"The condition is described as one of profound prostration, dorsal decubitus, dry tongue, fetid breath, continuous fever, feeble, small, perhaps irregular pulse, and frequent bed sores.

"The psychical condition becomes usually one of delirium, or perhaps partial stupor.

"There is in addition a marked, general neuro-muscular irritability. The whole musculature is held in a condition of rigidity, almost to the extent of tonic contraction. In spontaneous motion there is a perceptible tremor and a suggestion of incoordination. Speech is drawling, trembling, frequently of a nasal quality. The head, through contraction of the neck muscles, is drawn backward, and now and then raised and moved convulsively from side to side. The facial expression is anxious and the facial muscles move with a tremor or fibrillary contractions.

"The lower extremities are found in a strong condition of extension, with plantar flexion of feet. The tendon reflexes are increased and a simple percussion of the patellar tendon may result in a diffuse clonus of the entire limb, accompanied, perhaps, by spasm of the whole body.

"There may also be present hyperesthesia and increased reflex irritability of all the sensory areas.

"Pellagra is described as a feverless disease, but in this state the fever is constant and often high.

"Roseola is lacking.

"In most cases death occurs in one or more weeks, often in a terminal bronchitis.

THE PELLAGROUS ERYTHEMA.

"The erythema is the characteristic symptom of the disease. It makes its appearance almost invariably in the springtime, develops during the summer, and fades with the appearance of winter. It appears symmetrically and on the uncovered parts, selecting at first especially the exterior surfaces, backs of hands and forearms, face, back of neck, upper chest, or dorsal surfaces of the feet. Later the flexor surfaces become involved but the palmar and plantar surfaces always escape. Cases have, however, been described when the erythema involved the covered parts of the body, or was, indeed, generalized.

"Its relation to the sun's rays has been a subject of much discussion, but the most generally accepted idea is that the actinic rays of the sun simply act as an exciting cause in persons already victims of the disease.

"It usually makes its first appearance on the backs of the hands, developing later in other places. The skin in the beginning becomes red with sensations of burning and itching, and usually some puffiness is observed—all very similar in appearance to a marked sunburn. This red color disappears on pressure, but promptly returns when pressure is released. After some days bullate may appear, and these may fuse into large plaques filled with serum or even sero-purulent or sanguinolent fluid. The edema may then disappear, the epidermis dries and falls in small, grayish scales.

"At other times the epidermis, after the initial redness described, may take on a dark color, described as brownish or blackish, chocolate colored, or plum colored, after which it dries and scales with no bullous formation.

"Desquamation without erythema has been reported, also pustular erythema, especially in the face. Among some, exfoliation may occur in large flakes.

"After the first attack the skin remains pigmented for some time, and as repeated attacks occur it gradually undergoes chronic thickening with pigmentation, often of a dirty yellow, yellowish green, or bronze color. The skin is then indurated, thickened, hard and rough. Later its elasticity partially disappears, the articular folds grow deeper, painful fissures and thick crusts may develop, or even small ulcerations after exfoliation. Ecchymotic spots may sometimes be seen.

"After repeated attacks the skin may become atrophic, thin, and parchment like, with almost entire loss of elasticity and show whitish

spots like the striae gravidarum. When compared with the skin of the rest of the body the difference is then striking.

"It is to be noted that cases are described in which the erythema is wanting—pellagra sine pellagra. It seems, however, to be the general opinion that the absence of this symptom is only temporary, and that its final appearance can be looked for in all cases. Without the erythema diagnosis is difficult and must often remain doubtful.

PELLAGROUS INSANITY.

"In a few words, pellagrous insanity seems usually to be of the melancholic type. Acute maniacal spells may occur, however, with homicidal and suicidal impulses. Suicide by drowning is especially noted among the pellagrous insane.

"The general characteristic, otherwise, of pellagrous insanity seem not to differ greatly from those of other insanities.

"The diagnosis is to be made from the history and the coincidence of other symptoms.

"Recovery may take place, but in advanced cases the outlook is poor, and even if recovery takes place there is left permanent mental deterioration.

DURATION.

"As stated, the manifestations are periodic and usually appear in the spring. If the winter is warm they may appear earlier. The erythema is usually preceded by other symptoms.

"The duration of the disease is indeterminate and there is no regularity about the succession of the various stages. A pellagrin may be very ill one year and suffer lightly the next. The disease, in some, may remain stationary in the first stage for as much as twenty years, while in others it may reach the second, or even the third, in the first or second attack.

"Development seems to be more rapid and grave in children."

Many people have recently got pellagra and hookworms mixed up. It cannot be said too strongly that *the two diseases have nothing in common and are in no wise related.* The same may be said of pellagra and leprosy.

Respectfully submitted,

HIRAM BYRD,
Assistant State Health Officer.

SCARLET FEVER.

Quite recently there have been a number of cases of scarlet fever in different portions of the State. Not severe, but just mild cases that give the parents little or no concern, and which give the health authorities the greatest anxiety. The parents *are not concerned* because

the child is not very sick, and the doctor *is concerned* because he knows that it is this class of mild cases that keep the disease on the spread. In the first place they not infrequently go unrecognized and consequently the children go unrestrained to school, to church, to the playground, to tea parties, and the like, spreading the disease in their wake, for it should be understood that these mild cases can transmit the disease as well as any other. They may be so mild as to pass for a simple sore throat, but they are none the less contagious. And a severe case may be contracted from a mild one. Besides, it not infrequently happens that an epidemic remains mild for a while and then suddenly or gradually becomes more malignant, resulting in many deaths.

It is the duty, therefore, of parents, when scarlet fever prevails in a community to keep their children at home, especially the small ones, and more especially any child that develops a sore throat, however trivial it may seem to be. It is none the less a duty to keep the little ones from playing together or visiting one another while scarlet fever prevails in the community.

ROCKEFELLER'S MUNIFICENCE.

The recent gift of John D. Rockefeller of a million dollars to rid the South of hookworms does him great credit. It was suggested the other day that it would have been better spent had it been devoted to pellagra. But that came from an enthusiast on pellagra and is not taken seriously. And if it were, just a little reflection would settle the relative importance of the two diseases in any sane mind. There are probably more cases of hookworms in any one county from Virginia to the Gulf than there are cases of pellagra in the United States. There are probably more deaths, directly and indirectly from hookworm disease, in the South, every day in the year, than the total number of cases of pellagra in the United States in its entire history. Pellagra is confined to a very small portion of the tropics, while hookworms belt the earth in a zone about eighty degrees wide. Hookworm disease is thoroughly understood and now it only remains to apply that knowledge to the amelioration of human suffering. The cause of pellagra is not understood and the entire million dollars might be spent without ever determining its cause. Besides Rockefeller has already endowed a magnificent research laboratory, the Rockefeller Institute, in New York, which could probably do as much toward ascertaining the true nature of pellagra as a new million dollar gift could do, but that Institute could do very little at this time toward eliminating the hookworm.

From press reports it would seem that the plan of campaign is to be a dual one—part of the energies devoted to educational work and part to a system of dispensaries.

The State Board of Health of Florida has been working upon this problem now for about six years; at first in a very small way, gathering statistics, and endeavoring to determine the extent to which the hookworm prevails.

With a limited amount of knowledge of this kind in hand, it intensified the work along educational lines. During the last two years it has waged an unremitting warfare of education, through the press, the pulpit, the schools, and through personal work of the attaches of the Board. This crusade has brought to light some very important facts: (1) that the disease is wide-spread throughout the State, particularly the Southern peninsula; (2) that the reading public is now well posted both as to its prevalence, and the simplicity of treatment; (3) that it is the "unreading" public that constitute the great mass of the sufferers; (4) that these cannot be reached by the press, or by any other known means than personal contact; (5) that the rural white sufferers are reticent about accepting charity, and though the physicians throughout the State would gladly treat the indigent gratuitously, this reticence prevents them from applying for treatment. With all these facts before us, we are forced to the conclusion that the only practical means of reaching the masses is by thoroughly canvassing the State, meeting face to face and talking to every family in the infected territory. This the State Board of Health is now doing. It has two men in the field at present, and is gradually feeling its way. But it is obvious that the State cannot put enough men in the field to cover it. It is also obvious that this does not relieve the embarrassment caused by the reticence of the populace about accepting charity. The Board is therefore endeavoring to overcome both of these obstacles. The first is by letting the field worker make diagnosis and do the missionary work, treating a case here and there for demonstration purposes, and then send them to their family physician for treatment. The Board proposes to pay the physician for treating them. Now the funds of the Board are raised by taxation. Therefore, when it is put up to the head of the family that it is his Board that is doing this work, it will rob it of all semblance to accepting charity, and he will avail himself of the opportunity offered. This does not only work in theory, but in practice. For instance, the men in the field keep a diary of work, on loose leaf sheets, which they send in

to the office daily. Opening at random, I find the following report from Dr. Diggett:

"Nov. 1. Visited Buckingham (school), distributed eighteen specimen outfits among children and parents. Found this plan promised better results. * * * Talked with the professor at the school urging him to impress upon the children the necessity of bringing the specimens back to school next day so that I might collect them. Visited a number of homes of suspected uncinaria, urging the parents to obtain specimens and have them ready for collection next day. Returned to Fort Myers and spent rest of day examining specimens.

"Nov. 2. Returned to Buckingham, collected all specimen outfits distributed the day before. Found both parents and children more enthusiastic. Returned to Fort Myers, spent afternoon in temporary laboratory kindly placed at my disposal by Dr. Hunter. Out of twenty specimens examined found eighteen positive, and two negative. The plan of distributing outfits and calling for specimens is the most practical one and brings best results. These patients will be notified of the diagnosis by their physicians and treatment commenced at once."

The above extract indicates the line of work that is being done. While this plan has been in vogue only a short while, it promises to be an unqualified success. It will be modified as practice indicates. And it will be extended as conditions warrant.

In this issue is an announcement which sets forth the conditions under which the State Board of Health pays for treatment. It is not known to what extent Mr. Rockefeller's munificence will reach Florida, but however much or however little, it will tend by that much to augment the work already in progress here, a large part of which, I may add, has already been accomplished; namely: that the reading public in general is already posted on hookworm disease; the physicians are all recognizing and treating it; the teachers are all on the qui-vive for it and calling attention of the parents to it; and last but not least, a good practical method of meeting the problem on a large scale has been worked out, so that it is only a question of time now and a continuation of the work already in vogue when the State will be exempt from this disease.

HOOKWORMS.

As stated elsewhere, the reading public is pretty well posted on hookworms, but there are a few things yet to be emphasized. A prominent lawyer told me the other day that he had been living in Florida for twenty-five years and asked if that necessarily meant he had hookworms. *Certainly not.* Many people are born in Florida and other hookworm territories and live to a ripe old age without ever getting infested with hookworms. People who do not go bare-footed and get ground-itch, and who have ordinarily cleanly habits never get hookworms. Children may go bare-foot, where the soil is not polluted by a hookworm sufferer, with absolute safety. There is a youngster four years old in a yard which contains about a third of an acre. He goes bare-foot when he likes in the dew and on the wet ground after rains. It is one of his pleasures to play "duck" while it is yet raining. The soil is ideal for propagating the hookworm and yet absolute safety is felt for the boy for the yard is not polluted. And if it were polluted the larvæ would all hatch and live at most not over thirty or sixty days and the territory would then be safe again. Recently the lawn was fertilized from the cow lot. The thought then occurred that possibly infection with the larvæ of the hookworm might have been introduced with the fertilizer. The youngster was accordingly kept off that portion of the lawn for sixty days when it was considered safe again.

We are often asked if the laboratory of the State Board of Health is going to conduct any experiments along hookworm lines. The hookworm is now well known. The only thing left is to apply that knowledge to human suffering. The laboratory examines specimens submitted to determine whether the individual is a hookworm sufferer, but that is about all the laboratory work left to do with the hookworm.

IN A NUTSHELL.

The hookworm is a tiny little parasite infesting the intestine of human beings, mostly children.

There are other kinds of hookworms that infest cattle, dogs, seals, elephants, etc.

But only the human hookworm is known to infest human beings. The largest of these worms is about three-quarters of an inch long.

They look something like bits of sewing thread cut up in short lengths.

They deposit eggs in the intestine which are passed in the stools.

The eggs now hatch in damp earth producing a tiny worm.

This little worm is called the larvæ.

It is the larvæ which furnishes the starting point for the next case of hookworms.

It has two ways of getting into the human intestine.

One is through the mouth, being taken in with raw food and dirty hands.

The other is through the skin.

It burrows into the skin, producing ground itch.

Then it gets into the blood.

Next it passes to the lungs.

Here it breaks out into the air cells.

It is now coughed up and swallowed.

From this it is seen that children can only get hookworms where sufferers from the parasite have polluted the soil.

It is only here that they can get the larvæ on their hands or food to take them into the mouth.

It is only here that they can get the larvæ on the feet or contract ground-itch.

Avoid soil pollution and hookworm disease will not spread.

The larvæ live and thrive best in damp soil.

But they cannot live more than about thirty days at most unless they get into human beings.

Therefore where soil is already polluted, it is only necessary to wait a month and the larvæ will all be dead.

People who have cleanly habits do not get hookworms by the mouth.

People who wear shoes do not get them through the skin.

People who go bare-foot but keep off of polluted soil do not get hookworms.

Treatment for hookworms is very simple and very satisfactory.

Apply to the family physician.

THE COMMON DRINKING CUP.

On the 15th of October the following letter was written to the managing officials of all the railroads operating in or into Florida:

DEAR SIR—The State Board of Health of Florida has under consideration the advisability of abolishing the common drinking-cup or glass in the ordinary railway coaches and in sleeping cars of the roads operating in Florida or into Florida from other States.

It is apparent, I think without extended discussion what a great benefit will result to the traveling public in preventing the spread of disease by the doing away of the common drinking-cup. For instance: Persons with syphilitic mucous patches (ulcers) in their mouths, even when not visible, can easily contaminate the drinking cup and in this way innocent people may be inoculated with a deadly virus. So, too, can tuberculosis be transmitted in this way from the infected to the well. Aside from this it is repulsive to sensitive people to be compelled to use a vessel which is promiscuously used by other people.

Kindly read the following clipping from the *Boston Transcript*, which is pertinent to this subject:

"Since the first day of the present month (September) the common drinking cup has been banished from all trains, depots and schools in the State of Kansas. Kansas as a State and the railway company as a public corporation have taken a stand sadly needed in this country. We claim to be taking advanced views with reference to public health and our people demand public school inspection in all its refinements, millions of dollars are expended each year to establish healthful conditions, and at the same time some of the most obviously unclean and unsafe arrangements are permitted to remain without much remonstrance. The passenger-car drinking-cup in particular is an abomination, not only from its passing into the hands and to the mouth of all sorts and conditions of men, but from its location. It is usually at a tank recessed into the toilet-room and suggests the taking of a drink at a time when the hands of the individual have the best possible opportunity to convey infection.

"The whole arrangement of sanitary appliances in the ordinary railway-car is so abominable that one can hardly understand why boards of health and legislatures have not taken up the matter. It would be difficult to invent more undesirable conditions. The rooms on the passenger-cars are rarely furnished with water for washing the hands, although this should be the primary requirement of such a place. The ice-water tank as a part of the usual combination seems always questionable, first as to its cleanliness, second as to the purity of its supply of water, and third as to the handling of the ice. It seems probable that the tanks go for long times without cleansing. The water may be from questionable supplies, for little attention is given to this. The replenishing of the supply is sometimes under questionable conditions, with a dingy watering-pot whose abiding place between trains may be astride the sink-rim in the toilet-room of a large station. And as to the ice, it is customarily put into the tanks by the brakemen, who handle it with hands that are far from clean, and without the intermediation of the ice-tongs. These conditions are not difficult to remedy; and they persist simply because the public has not realized what they are. And then there is the drinking-cup."

In order that the traveling public may not be inconvenienced by abolishing the common drinking cup, it is suggested that the roads install individual drinking cup vendors. By this means individual cups made of paraffine paper can be secured at a cost of one cent each and which, after the journey is completed can be thrown away without incurring a great monetary loss to the individual.

Before enacting this rule or regulation which it is permissible for the State Board of Health to do under an enactment of the last Legislature (see Chapter 5931, Laws of Florida, 1909), the State Health Officer desires an expression of opinion from you on the practicability of the measure and would be glad to have you state any objection which you may have to the proposed ruling.

Yours very truly,

(Signed) JOSEPH Y. PORTER,
State Health Officer.

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